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AND
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OBSERVATIONS ON THE ANTISEPTIC TREATMENT OF SOME OF THE ZYMOTIC DISEASES OF THE DOMESTICATED ANIMALS, WITH SPECIAL REFERENCE TO THAT OF SPLENIC APOPLEXY IN CATTLE.

BY J. BRODIE GRESSWELL, M.R.C.V.S., LOUTH, LINCOLNSHIRE.

OWING to the immense strides which have recently been made in our knowledge of the life-history of some of the so-called germs or microbes, present in the blood and tissues of animals suffering from the various zymotic diseases, it is now universally admitted by scientific men that it is to the presence of these fungi that such diseases are due.

We do not propose to enter into the life-history of these organisms, concerning which so much has so recently been written, but to illustrate, by a summary of a large number of cases which have occurred in this practice, the treatment by which we can, in a large degree, combat the progress of some of these important diseases.

It has been asserted, and is often still maintained by many, that Splenic Apoplexy in cattle is an incurable affection. Yet few of us would be prepared to admit this statement, and the following record will suffice to prove clearly how valuable anti-septics are in its treatment. We will first devote our attention to the consideration of the treatment of this disease in cattle.

Of its prevention by inoculation, by M. Pasteur's method, we

shall not treat, as the advantages and disadvantages of this process have recently been so ably set before us by many writers of ability and experience, both in this country and abroad.

It has been conclusively proven that the pathogenic *Bacilli Anthracis*, present in the blood and tissues of animals suffering from this disease, prove so rapidly fatal, owing to the enormous rate at which they multiply.

Three questions, therefore, arise for our consideration.

Firstly, Can an animal, by the administration of drugs, be rendered proof against the invasion of these microzymes?

Secondly, When present in the blood and tissues of the animal, while the disease is still in its incubatory stage, can these fungi be destroyed and their reproduction arrested?

Thirdly, When the disease is at its acme, are drugs of any avail in its treatment?

We will first review a number of cases, and then will revert to the answering of these questions.

In February last, I was summoned to a herd of cattle some miles from Louth. They were forty in all, and were diagnosed in adjoining crews. Two were dead on my arrival, and another one, which was exceedingly ill, and had a temperature of 106.4° , died on the following day.

Of the remaining beasts, twelve were affected, and had temperatures varying from 103° to 104° , one reaching to 105.2° . The symptoms manifested were those of Splenic Apoplexy, and the *post-mortem* examinations made on two of the beasts fully confirmed the diagnosis. The spleens were of the respective weights of eleven pounds and fifteen pounds.

A careful examination made of the blood-tissues and organs of one of the animals by my brother, Mr. Albert Gresswell, B.A. and M.R.C.S., revealed the existence of abundance of *Bacilli Anthracis*. The spleen, in particular, contained enormous quantities. I do not append any representations of these microbes, as their form and configuration are now so familiar to all of us.

On the following day, after my arrival, all the animals were put under medical and dietetic treatment. Sulphite of sodium and vegetable tonics were administered in appropriate doses. All did well for a time, and the medicine was discontinued after three

days, by the special request of the owner. On the fifth day, another of the beasts succumbed.

The medicine was then resumed, and continued for fourteen days longer. After this, all the animals progressed favourably.

I now beg to call attention to a most remarkable outbreak, which occurred some years ago in my late father's practice. Here not only the beasts, but the horses and one of the pigs on the farm were also affected.

On September the 7th, 1877, my father was summoned to a farm six miles from Louth. On his arrival one beast was found dead. The autopsy revealed all the characteristic pathological lesions of Splenic Fever. The spleen was much enlarged, and the endocardia of the ventricles of the heart were ecchymosed. The intestines were inflamed in patches in many places. The fæces were blood-stained. The blood was of a blackish hue. The lungs were engorged and black. The mucous membranes of the air-passages were much inflamed.

Abundant extravasations of blood were found in various parts, and were specially noticeable on the surface of the rumen, omasum, and abomasum. The lining membrane of the last was of a dark hue. There were in all twelve milch cows and twelve calves. In more than half some untoward symptoms were manifested. All were treated with sulphites. Mash and linseed gruel were ordered to be administered. All did well for a time. They were treated for five days, and then were removed to a distance of several miles, and, contrary to special directions, were put out to grass. On the next day after removal one died, and two more succumbed shortly afterwards.

After this all progressed favourably. On the 11th of September my father was again called in to the same farmstead. He found a brown cart-horse dangerously ill, and death ensued three hours after his arrival. The pulse was 56, respirations 40, and the temperature $103\cdot8^{\circ}$. Symptoms of Laryngitis, Bronchitis, and Pneumonia were manifested.

On September 12th, when called in again, two more cart-horses were found affected. One, a black cart-horse, aged six years, had a pulse of 60, respirations 46. There was in this case much external swelling around the throat; the other

horse also had similar symptoms. Both died in three or four hours after being seen. On September 13th another cart-horse died, and still another died on the 14th. On September the 15th three more cart-horses showed symptoms of disease, and the owner now, for the first time, consented to have the horses taken from work and put under regular treatment. The treatment consisted of the administration of sulphites and potassium chlorate. Nothing but soft food was allowed, and this consisted of cake, gruel, and mashes. The symptoms shown were similar to those described above.

The treatment was continued until the 25th. All three cart-horses recovered.

It is noteworthy that the beasts and horses had been feeding upon the same grass and drinking the same water. A *post-mortem* examination was made on the black horse which died on the 12th, and on one of the other horses. There was an enormous effusion of yellow fluid around the throat; this extended from the jaw to the breast, and must have amounted to several gallons. The lining membrane of the larynx and trachea was of a purple hue, and full of frothy, blood-stained secretion. The lungs showed signs of inflammation, but they were not so much affected as in the case of the beasts. The bowels were inflamed throughout. The spleen was enlarged, but there were no extravasations or ecchymoses. Shortly after the examination of the cart-horse, one of the pigs on the farm licked up some of the blood which had escaped. Two and a half hours afterwards it died. According to the foreman, it first turned red, then purple, and finally black, and then died.

A very remarkable outbreak of Splenic Fever also occurred in my father's practice in February, 1878. This is recorded fully in the *Veterinarian* of April, 1878. In this instance, out of a total of fifty beasts which were in the portion of the buildings where the disease appeared, only two survived.

The cause of this outbreak was attributed by Mr. Gresswell to the fact that the animals had been fed with decomposing grains. Sulphites were administered to some of the remaining animals, about fourteen in number, which afterwards manifested premonitory symptoms. One died, the remaining animals recovered.

A well-known Lincolnshire farmer occupied some grass land at Biscathorpe, which he was compelled to give up in consequence of this disease appearing nearly every year. In these outbreaks he generally lost four or five of his cattle before he had time to call in any advice. But the disease was quickly arrested as soon as the beasts were put under this treatment.

In the summer of 1877, Mr. W——, of Marsh Chapel, lost four beasts suddenly. The *post-mortem* examination revealed the existence of Splenic Fever. The others were taken up and treated. No further deaths occurred.

During the past four or five years, many outbreaks of Anthrax have occurred on a farm at Wainfleet. In these, horses only were affected, and the *post-mortem* of the blood and tissues revealed these microzymes in abundance. These were all treated as above.

After these descriptions of outbreaks, all of which have occurred within a radius of thirty miles from here, we may turn to answer the questions proposed above. It seems to us that sulphites administered to animals do act, to some extent, as a preventive against the invasion of these bacilli; and it appears that when administered in the early stages of the disease, they are equally advantageous in their action. Indeed, they may act by preventing the multiplication of the *bacilli* and causing their death. In advanced stages of the disease, it is probable that they are of little avail, as here the lesions produced are so grave as to cause death, even though the bacilli be destroyed. Yet these remedies may be of some advantage when administered with other appropriate medicines.

We have spoken of the sulphites specially, because abundant experience has shown us their use in this disease. Other antiseptics may prove, and probably have proved, equally valuable. In our experience we have noted that hypo-sulphites are not nearly so valuable as sulphites. Indeed, we consider them almost valueless.

We will now turn for a while to the consideration of the antiseptic treatment of Foot-and-mouth Disease.

During the past few months, I have had ample opportunity for noticing the marked and favourable results obtained by the judicious and careful use of antiseptics in its treatment.

In one particular case I had under my care—a milk cow in a very debilitated condition. She showed all the specific symptoms of the disease in its worst form. The breath was very foetid, the fæces were fluid and blood-stained, the temperature 106·5°. This cow made a complete recovery under sodium sulphite, sodium salicylate, and tonics.

A few remarks might be made with regard to the saving properties of these drugs when administered to sucking calves affected with Foot-and-mouth Disease. We have found that in cases where these medicines have been administered, the calves did well. In cases where no treatment was adopted they progressed badly, and some succumbed.

Mr. Spencer, M.R.C.V.S., of Wragby, has also used these medicines in the treatment of sucking calves affected with this disease, and has had similar success.

I could cite many more instances, but the above will suffice to bring always before our notice the fact which few would dispute, viz., that in the sulphites we have a potent antidote against these low forms of vegetable life, which prove such scourges to man and beast.

We may add that almost all the antiseptics have been tried by us, and with varying success. In the treatment of Anthrax, at any rate, we have had most success with the sulphites.

In conclusion, we would draw attention to the fact that these remedies have proved of much service in Septicæmia and other toxic conditions of the blood, depending upon the presence of Bacteria in the blood and tissues of the animal. My late father used the sulphites in the treatment of animals affected with Cattle Plague or Rinderpest, in the last great outbreak in this country.

INSPECTION OF DAIRIES AND ZYMOTIC DISEASES. WITH WHOM DOES THE RESPONSIBILITY REST?

BY WM. ALSTON EDGAR, M.R.C.V.S., DARTFORD.

A CASE reported in the *Lancet* of to-day (8th Dec.), by the medical officer of health of Gateshead-on-Tyne, is invaluable

evidence of the necessity for an efficient and qualified staff of inspectors to carry out the elaborate intentions of the Contagious Diseases (Animals) Act.

If "strict attention in the matter of detail" is necessary for success in antiseptic surgery, it is in a twofold degree for the successful working of the above-mentioned Act, if it is to be a weapon of any value wherewith to suppress the extension of zymotic maladies.

Dr. Green, of Gateshead, found that fourteen persons suffering from Enteric Fever were being supplied with milk from a certain dairy in that town. He remarks: "On visiting the suspected dairy, I ascertained the following facts—There were two byres, one adjoining the house, and the other at the opposite side of an oblong yard. They were joined at one end by a midden, and a privy and ashpit, the other end was open.

"The byres were ventilated, but had too many cows in them for their size, the space for each cow being 500 cubic feet only. There were three untrapped gullies in this yard, and a doubtful one in the byre adjoining the house. The ashpit and the midden were unroofed, the former being drained. The milk was kept in a small scullery, the only ventilation of which was by a small window looking into the yard at a point twenty-six feet from the ashpit and ten feet from an untrapped drain."

This deplorable place had actually been *registered* under the "Dairies Order." Within the house a child was suffering from Enteric Fever (although it appeared that the family medical attendant and a consultant could not agree in their diagnosis; the former saying it was Enteric Fever, the latter only pulmonary congestion).

Dr. Green continues:—"The mother of the child, who nursed him, frequently milked the cows and washed the dairy utensils. The milk was kept in the previously-mentioned scullery in the house. . . . The sale of the milk was immediately stopped by an order from the Town Clerk, and the place has not been used as a dairy since, and will not be *re-registered* until such sanitary improvements as are *considered necessary* by the *borough surveyor* and *myself* are carried out." (The italics are mine.)

A further short quotation is necessary:—"6. The feebleness of

the Dairy and Cowsheds Order to deal with such a case. I had to assume powers far greater than the Order gives to stop the sale of milk."

I must now contend for the ample provision in the said "Order" to have PREVENTED the whole of the mischief mentioned, had it been *strictly* carried out; the "feebleness" is not in the "Order" itself, but with the *agents who administer it*. Who would expect the most perfect and expensive chronometer to act efficiently if one simple cog were missing?

It would be interesting to the profession, and possibly to the Privy Council, to know by whom these wretched sheds were inspected *before being registered*, and by whom they were *periodically inspected* in conformity with the Act. Evidently sanitary science was quite a secondary study with the individual. It may be hoped, considering the great absorptive power of milk, that the selection of the scullery as a milk-store is unique in the history of dairy farming.

In this district (and I doubt not in many others) the periodical inspection of dairies, etc., is carried out by a police-officer and an ex-policeman. It is well known to cow-keepers that such individuals are quite ignorant of symptoms of disease, and they find it by no means difficult, if so inclined, to evade the law. This applies especially to outbreaks of Foot-and-Mouth Disease amongst dairy stock. Here the *only* safeguard would be that the inspector should see the milk drawn from the cows and boiled or destroyed.

If the Dairies and Cowsheds Order is law, and efficient law, it should be carried out literally, and not left to the discretion of police-officers, or even borough surveyors.

GLANDERS APPARENTLY CURED.

BY S. GILLESPIE, M.R.C.V.S., ARMY VETERINARY DEPARTMENT,
INDIA.

MR. MEYRICK'S question in the Journal of September induces me to give the following case, which occurred in the practice of the late Mr. Robert Prentice, of Longford.

The case, I believe, was that of a somewhat valuable animal, and was, in the opinion of the above-named gentleman, one about which there was not the slightest doubt ; so he wisely recommended destruction.

But the owner, like many others, unfortunately listened to the voice of a charmer in the shape of a quack, who averred he could effect a cure, though there were lots of ulcers actively discharging the vile poison over several parts of the body, and perhaps on the legs too ; for never having been close to the animal, I have to depend almost entirely on memory. I went to see the horse, but the owner having turned it loose in a meadow some weeks previously, it was so wild that it looked upon my friend and myself as enemies, and would not allow us to get near enough to inspect it properly ; but I could see well enough the condition the body was in. But for the ulcers, the animal looked rather well, as the coat was sleek and condition good. This visit was made about May, and during the early summer all the sores dried up and the horse returned to its usual work, but died during the following autumn, either in October or November, suffering, I believe, as it had done before. I regret extremely being unable to give the case as detailed by Mr. Prentice, but I remember being perfectly convinced about its being one of pure Glanders. I give the name of the practitioner and also that of the owner (Mr. Fleming, of Clondaa, Longford), in hopes that some one may supplement my few remarks by a fuller statement of the case.

I was on a short visit when I saw this case, and taking considerable interest in it, took good care to hear how it progressed. I was informed when it became convalescent and *apparently* cured ; but though cured according to my informant, I was doubtful, and considered it as only temporary. I am unable to say whether the horse was allowed among the others as usual, but know it was regularly worked until the disease showed itself again. I am also unable to state if the owner suffered any further loss for his folly in trusting to quackery with such a disease staring him in the face.

Now, the point about this case is, that it was a very bad one, that the horse was laid up for some months, and after-

wards completely recovered, as far as non-professional men could see; but that during the following autumn it succumbed to the disease. Had my knowledge of the case ended when the horse was reported well, then I should have had to detail a case in which Glanders had been apparently cured; but fortunately it went further, and the author of the quack-cure had a few months after to tell the story of death.

I regret exceedingly that I have only been able to give a very sketchy account of what will probably be a very interesting case to many; but on trying to commit to paper what was fresh in my memory nearly ten years ago, I find that my knowledge of it has to a considerable extent evaporated.

In conclusion, I cannot help regretting that the horse was not under the most careful professional scrutiny during the convalescent stage, for then notes would have been taken which would have been reliable, and, no doubt, would have been made known to the whole profession through the medium of some journal. Perhaps, however, such cases are not so rare after all, and this may be the means of inducing others to give instances where they were actually in charge of such, and which would be much more interesting than the above.

“ICHORÆMIA.”

BY A. M'CARMICK, M.R.C.V.S., LEEDS.

AN aged stallion cob, the property of a fruiterer, was noticed on October 30th, by the owner, to be off his food, and also that there was an increased flow of saliva from the angles of the mouth. On the following day the symptoms were intensified, and on November 1st the owner requested me to see him.

On my arrival at the stable, I found the pulse was 72 and weak; respirations, normal; and temperature $104\frac{1}{2}^{\circ}$. The visible mucous membranes were coloured yellow. The mouth was filled with a ropy salivary secretion, and the tongue was much increased in size, and of a salmon colour. There was a diffused swelling extending from the submaxillary space to as high upwards as the roots of the ears. Both the upper and

under lips were also swollen. The animal would look at nothing in the shape of food, but sipped gruel or water slowly.

November 2nd.—Pulse 70; temperature $104\frac{1}{2}^{\circ}$; tongue much increased in size, and protruding from the mouth about four inches. Other general symptoms similar to yesterday.

November 3rd.—Pulse 66; temperature $103\frac{1}{2}^{\circ}$. At the tip of the tongue, and also on the mucous covering of the lips, there was desquamation of the epithelium, and to such an extent that in some parts it resembled small ulcers. There was also a very foetid discharge on each side of the tongue a little posterior to the frænum.

November 4th.—Pulse 60, temperature 103° . The swelling in the submaxillary space opened, and discharging a foetid, sanious material.

November 5th.—Tongue much reduced in size, and withdrawn into the mouth, also general desquamation of its epithelial covering; general appearance much improved.

November 6th.—Pulse 56; temperature 102° . Animal eating small quantities of soft food and drinking freely.

November 7th to 10th.—Animal convalescent, and is at the present date, December 11th, working and doing well.

Treatment.—Febrifuge medicine given in drinking water; solutions of potassium chlorate, and acidum carbolicum, were syringed into the mouth alternately. Hot fomentations were applied to the swelling externally, before it opened, after which it was treated as a common wound.

PARTURIENT APOPLEXY IN CATTLE, COMMONLY KNOWN AS "MILK FEVER."

BY J. H. COX, M.R.C.V.S., ARMY VETERINARY DEPARTMENT,
5TH DRAGOON GUARDS.

(Continued from page 413, vol. xvii.)

Similia similibus curantur, applied in its broadest sense, would embrace the answer to these sceptics, for we have by cultivation wrought within our animals an undue amount of fertility, which is profitable only so long as it works for our benefit. Once it

culminates in disease we are compelled to employ remedies which will render abortive the effects of our scientific interference. In this way milking, at the period referred to, will prove a useful ally.

THE ACT OF PARTURITION is what may be designated the chief *exciting cause*. It, therefore, behoves us to institute a certain regimen which shall prevent this natural effort on the part of the animal from becoming a source of danger. This I shall allude to when speaking of preventive remedies.

SYMPTOMS.

Some affections are characterized by a code of symptoms which experts only can diagnose, while others are so plainly visible that the uninitiated may be excused for their semblance of self-arrogated knowledge. There is no mistaking a well-developed case of Parturient Apoplexy. The cow-boy, radiant with the information, can tell us that "she has dropped after calving," which is significant of the fact that the affection has become unmistakably established.

Stock-owners very often do not pay sufficient attention to initiatory symptoms, but allow disease to create a stronghold before they begin to attack. In the first stage very simple remedies will sometimes suffice to re-establish the balance of health, whereas if disease is allowed to run on all the resources of science may fail to dislodge it.

The symptoms may be classified as *premonitory* and *established*. Premonitory, by their foreshadowing events which are looming in the distance, and which, if not checked, will assume definite proportions. Established, when we have failed, either through non-observance or want of capacity, to lop off the disease while still in a budding state, and before it has had time to blossom forth. The symptoms may further be divided into first, second, and third stages, and as such I shall present a description of them to your readers.

The First Stage.—Signs of approaching mischief generally make their appearance from the time the calf is born up to a subsequent period of twenty-four hours. As a rule, however, the disease shows itself within the first twelve. If particular atten-

tion is paid to the animal, it will be observed that the first sign to register the commencement of hostilities is a *rigor*, distinct, but not prolonged, the nervous system having by its magnetic influence, if I may use the expression, plainly "wired" to us the genesis of the disease; and, as is the case in other allied electrical disturbances, heat is generated, which is recognised by the readings of the thermometer. This exalted action of nerve ramification increases, and we discover twitchings of the ears, shaking of the head, and uneasy movements of the body generally, as "paddling." In aggravated cases we have moaning, which may culminate in bellowing. A peculiar expression of the eyes, symptomatic of approaching cerebral disturbance. The pulse is increased in frequency, owing probably to attempts of the heart to overcome the increasing obstruction so pathognomic of this disease. Following this condition, the lacteal secretion ceases. Other organs, as kidneys, bowels, etc., begin to lose their wonted functions. Rumination is consequently suspended, appetite gone.

Second Stage.—Having failed to check the onslaughts of the enemy, the symptoms become enhanced in severity. The patient, no longer able to stand, assumes a recumbent position, and makes attempts to get up, but with only partial success. The feeling experienced that the burden is becoming too heavy to bear increases the excitement, and at last one huge effort to rise is often made, resulting again in failure. Submission to the inevitable follows, and the undue excitement engendered by these violent efforts more or less subsides, and we approach

The Third Stage.—Complete paralysis is now established, and then begins that struggle for supremacy between life and death. The eyes become insensible both to light and touch. All organs of the body, except those essential to bare life, are in abeyance. The pulse indicates the difficulty the heart has in propelling the blood through the system. It is at this stage that the "slowing" of the circulation takes place, and on being able to overcome this depends our success. The respiration is slow and sometimes almost imperceptible, and accompanied by a low expiratory moan. The head is thrown violently about, resulting in its always being drawn to one side. Twitchings of the lips follow.

The udder still refuses to yield the supply of milk, and in some cases it becomes flabby, in others swollen and tense, whilst it may be contracted and drawn up closely to the abdomen. There is great tendency to become tympanitic, or "blown," arising from cessation of the peristaltic action of the stomach and bowels. This condition is often aggravated by animals being allowed to lie "broadside," a position they will assume unless constantly watched. As the case goes on the respiration becomes more impeded, and arterialization of the blood is imperfectly carried out. The air passages to the lungs do not seem to have sufficient capacity to admit the air, and we observe in consequence "oral breathing." The eyes become glazed. The lower jaw recedes from the upper. The power of swallowing is a thing of the past. It seems as if the merest accident would precipitate death. This is the critical time, and it is impossible for any one to prognosticate what the finality will be. If the forces in operation are powerful enough to overwhelm what little vitality there is left, death must inevitably ensue. But if, on the other hand, nature, assisted by medical aid, is sufficiently elastic to stand the pressure, we may hope to get *resolution*.

The signs of approaching recovery are centered at several points. The milk, although small in quantity, begins to make its appearance. The eyes lose their death-like characteristics. The pulse regains some of its tone. A sense of relief is experienced in the respiration. The power to deglutate has returned. The patient, by degrees, can support its own head; and in a marvellously short space of time all danger *seems* to have passed away. Success has attended our efforts so far, but we are not out of the wood. The blood is virtually the same. We have only crowded at a few points its dangerous elements, the greatest rush being made to those centres where purification is likely to take place, *i.e.*, the lungs and mammary gland. The excessive strain thrown upon the former is so great that some animals are compelled to yield to its influence, and another form of Apoplexy is developed, *i.e.*, Pulmonary, which terminates either in death from that condition alone, or its sequel, Pneumonia, or in resolution.

Another legacy of Parturient Apoplexy is continued Paralysis

or Paraplegia. The animal, having escaped Pulmonary Apoplexy, seems to be recovering, but is unable to regain the use of its legs. If this contingency arises merely from distended blood-vessels on or about the spinal cord, it will not be of long duration ; but if it is the result of blood extravasation or serous exudate, time only will overcome it, as the removal of the escaped fluid must be brought about by absorption.

If none of the sequelæ referred to have taken place, convalescence is speedily established, and in a few days our patient on the high road to recovery. Considering the gravity of the symptoms, it seems wonderful that restoration can be accomplished in so short time. The interim between the two points, that is, apparent death and robust health, occupies often but a very brief period. Be the *interregnum* what it may, the experiences awakened within the animal must have been of a forcible character.

TREATMENT.

No disease has been the subject of more empiricism than the one under consideration. We have, even at the present day, vaunted remedies said to possess specific properties as curative or palliative agents. These range from a combination of some of the many recipes found in the veterinary pharmacopœia to the more homely ones of the cowman or his wife, or those of the village parasite who preys upon the ignorant public. The owner of an animal so afflicted is, of course, anxious to bring about restoration of the patient, and often takes well-intended, but nevertheless misplaced, advice to effect this purpose. Scores of cases, I have no hesitation in stating, are rendered hopeless by such unskilful interference.

I cannot here wade through the numerous formulæ which are supposed to afford benefit ; suffice it to say that I have tried most of them with varying results, *ergo* shall confine myself to a description of those which may at least be said to be rational, and which in my hands have proved fairly successful.

In the first place, I shall commence with venesection, or blood-letting. This detail finds many advocates, whilst others condemn it. The fault, if any, does not lie so much in the operation as in the time chosen for its execution. If blood-letting is in

any way useful, it is in the primary stage of the disease, and before that species of *inertia* which overtakes the animal has become established. To bleed when the heart has lost tone is a suicidal policy, and cannot be too highly condemned. The right time is when the first symptoms make their appearance, and before "dropping" takes place. At this juncture the heart is struggling to maintain its supremacy, but has to succumb to influences which implicate not only this, but other organs. The extraction of five or six quarts of blood at this period very often has a beneficial effect, but how seldom is the professional man called in when his services would be of avail in this respect!

Purgatives of all kinds find their votaries. Some pin their faith on large doses of *magnesium sulphate*, some on the forms of *croton*, either in the shape of oil or farina, whilst others resort to *oleaginous compounds, etc.* To give purgatives in a well-established case of Parturient Apoplexy—that is, during the comatose stage—betokens a species of ignorance not creditable even to the merest tyro. The cause giving rise to torpidity of the bowels seems to be lost sight of. Let the true pathology be what it may, every one must admit that the intestinal tract ceases to have any influence over its contents, and that purgatives, however drastic in their nature, do not produce the effect their administration would seem to justify. We cannot hope to restore the system to its original state of susceptibility by pouring into the stomach large quantities of either Epsom salts or any other purgatives. The cessation of peristaltic action is co-existent with the loss of nerve power, and as long as this continues it is hopeless to expect these agents to produce any appreciable results. We must first restore the pristine condition of the nervous system, when that of the stomach and bowels, together with other organs, follows as a natural sequence. There is a stage, however, when cathartics are admissible—*i.e.*, at the commencement of the attack, and before the brain and its accessories shall have ceased to perform their respective functions. One great and very weighty objection may be found to their use, and indeed to most of the remedies employed to combat this disease, viz., that the flesh, supposing the cow be in a fit condition to slaughter, may be rendered useless as a food

commodity for human consumption. Therefore, considering the questionable benefit which accrues from their administration, I should hesitate before adopting this mode of procedure.

Local remedies should enter the category of remedial agents. These hitherto have been confined to the application of liniments, ice, cold irrigations, the hot iron, electricity, sheepskins, etc., to the head and vertebral column, whilst those parts from which the disease takes its origin have been left untouched. If the act of parturition is the exciting cause of this affection, surely the structures principally concerned in this process have something to do with its development. To combat it successfully we must direct our attention to the uterus. The first step is to establish a proper reaction in its walls; and although this applies with greater force as a preventive measure, we cannot afford to lose sight of it as a remedial agent. Before proceeding to adopt other local remedies, to which I shall allude hereafter, the uterus should be washed with the following, and repeated every six hours: Alum calcined, $\mathfrak{z}\text{i}$; Carbolic Acid, $\mathfrak{z}\text{i}$; Glycerine, $\mathfrak{z}\text{iv}$; Aqua, oj . An ordinary enema syringe, or the primitive bladder and pipe, will effect this purpose. The above solution serves a two-fold object: on the one hand, by its astringent properties acting upon the muscular tissue and walls of the vessels, it enables the uterus to forcibly contract upon itself, and thus bar the road to any deleterious material, except by endosmose, entering the circulation; on the other, it cleanses the parts with which it comes in contact, and prevents, by its antiseptic properties, any decomposition which, especially when the weather is favourable to it, is likely to take place.

Ergot of rye should be administered either in the ordinary manner or subcutaneously. The latter is to be preferred, as the power of swallowing soon becomes a matter of difficulty. Twenty-five grains of the ergotine should be injected every six hours. The specific action of this drug is primarily on the ganglionic system of nerves, and secondarily on unstriated muscular fibre, which it contracts. The same action is extended to all vessels, predominating perhaps in those of the uterus and spinal cord. The uterus possessing a large amount of unstriated muscular fibre, and being highly endowed with blood-vessels, it

can be understood that the effects the ergot of rye determines are at once productive of good results. *To ensure the full benefit of this remedy it must be fresh and good.* Mr. Briggs, F.R.C.V.S., in the VETERINARY JOURNAL of 1879, gives his experience of ergot of rye as follows: "Having, like most practitioners, experienced frequent disappointment as to the adverse issue of this disease under the many known methods of treatment, I was, about a year ago, led to adopt the exhibition of ergot, by a consideration of the records of its physiological and therapeutical actions. For some time I administered *pulvis ergotæ* or *liquor ergotæ* 'per vias naturales,' but in the established disease the results were not encouraging. Where, however, the *pulvis ergotæ* had been added to the ordinary 'drink' given immediately after calving, no case of Parturient Apoplexy has come under my notice; but whether this can be ascribed to mere coincidence or to ergot as a prophylactic, I do not pretend to say. The failures, although discouraging, I suspected might be due to the uncertainty of the action of these preparations of ergot—as they are often found bad and inert. I then resorted to the hypodermic injections of the active principle of the drug, giving from twenty-five to thirty grains of ergotine, taking care to deeply inject into the muscular structure to prevent after mischief, and repeating the dose if necessary in ten or twelve hours. The other treatment consisted of counter-irritants, catheterism, enemata, etc., etc., with, where deglutition was not much impaired, the exhibition of a saline purgative. This treatment has, so far, in the limited number of cases in which it has been tried, been attended with almost universal success, whether in the early or later stages of the disease. Although we may form some idea of the rationale of the treatment by ergot, it would, I think, be premature at present to attempt any definite conclusions." Mr. B., without committing himself as to the pathology of this disease, has at all events struck one of the key-notes to successful treatment. And the facts he adduces are, in my opinion, consonant with the ideas of it being due to Thrombosis; for the ergotin, having been taken up by the circulation, begins operating at once by enhancing the tonicity of the walls of the uterus, and thus tending

to that perfect involution which I claim is the only safeguard. This gentleman's testimony as to the prophylactic influences of this drug is most valuable, and adds another link to the chain of evidences as to the real nature of this malady.

Stimulants undoubtedly are useful agents to employ. By their action they tend to quicken the circulation, which, considering the semi-stagnancy that has taken place, is a *desideratum*. Some practitioners object to their use, on account of the reaction which they claim follows the administration of large doses of alcohol ; but they seem to forget that the coma existent in Parturient Apoplexy is totally different from that which accrues from acute alcoholism. How is it possible to remove congestion of the entire vascular system, and hence nerve tension, unless by direct and powerful stimulation ? I do not remember having witnessed coma engendered by such procedure.

Stimulants, although very essential, often fail to bring about restoration unless accompanied by other means. *This leads me to the one remedy above all others which I consider to be the sheet-anchor in all such cases, viz., "the cold, wet pack."* For the benefit of my readers who do not understand this method, I will describe it in detail. It is simple, but effectual. Success depends upon its being properly carried out, which can only be accomplished by personal supervision. Nothing must be left to attendants, otherwise failure may result : this I know from experience. In dealing with a case the assumption is that at least the second stage of the disease has been reached, *i.e.*, the animal is in a recumbent position and unable to rise. After ascertaining whether the bladder requires assistance to evacuate its contents, stripping the udder of what milk it contains, and otherwise making the animal comfortable, rub in about a quarter of a pound of chilli paste along the course of the spine. If the paste is not obtainable, strong ammoniacal liniment or mustard embrocation will serve the purpose : this must be accompanied by a considerable amount of friction. Having done this, obtain a large thick linen or cotton sheet, such as is used for domestic purposes, immerse it in cold water, wring out the superfluous fluid, and cover with the sheet every part of the animal except the head and, of course, those in apposition with

the floor. Over this place two or three rugs, or more if necessary, the whole to be enveloped with mackintosh sheeting, observing the precaution that not a single portion of the body is left exposed. The sequel will be that in a short time the animal will be teeming with perspiration. So long as this action of the skin goes on, it may be assumed that the "pack" is doing its work. But once it is observed that this effect is not produced, another sheet, already immersed, should replace the one on the animal. My experience is—and I have tried this method many times—that it is necessary to keep it on from half an hour to an hour, or even longer, before a change is imperative. In replacing the sheet the greatest despatch should be practised, lest a check to the action of the skin takes place. If sufficient upper clothing, such as rugs, etc., has not been applied, more should be had recourse to. It is not always convenient in out-of-the way places to find the desired amount, so ordinary blankets, sacks, etc., may be extemporized, the whole to be enveloped in dry, clean straw. Due attention should be paid to the "pack." The restless state of the animal necessitates the greatest amount of vigilance on the part of those in charge. Once it begins to operate, and the action is kept up, leave well alone; close every aperture where evaporation is likely to take place. By this means the skin is brought into violent action, a very large amount of blood is determined to the part, the consequence being that all the vital organs are relieved. The brain begins to resume its functions, the light of life pervades the countenance, and from a state of coma we pass to one of consciousness. There is, as far as I can see, no particular merit in the pack, except that it is the means to an end. Could other means be devised as effectual in producing this exalted action of the skin, similar results would doubtless accrue.

Now arises the question, What changed pathological conditions have been induced to produce such happy results? It will be remembered why coma is engendered, why the inability of any of the organs to perform their legitimate functions; simply that they are supplied with blood which is foreign to their nature, a fluid possessing in itself elements which exercise undue pressure by their wonted affinity for the walls of the vessels and sinuses

through which they pass. This "slowing" of the circulation becomes enhanced. The *vis a tergo*, a meaningless term, and death results. In the production of this excessive perspiration we quicken the activity of the vessels of the skin. For the time they assume a hyperæmic condition similar to that observed in the use of the Turkish bath. With the blood thus determined, we have these foreign elements to which I have alluded. Molecule after molecule follows on in quick succession until the vital organs are relieved, and the skin, which is not vital, becomes their repository. The balance of nerve power having become re-established, the usual disintegrative influences are set to work, and the blood by degrees loses that overplus of fibrin which nature had been so generous in her bestowal.

To show the necessity for great attention to the "pack," I will give an illustration which occurred in my practice in the year 1870. Patient, on my arrival at 4 p.m., was comatose. The method described was adopted. I stayed until 10 p.m. to see the result. The animal, although improving, was still comatose. At 1 a.m. it had so far recovered as to be enabled to support its head without artificial assistance. At 4 a.m. I again visited the animal, and, to my disgust, found it "broadside" and without a particle of covering, having in its struggles dislodged the pack and its accompaniments. The skin was icy cold, and in three hours the patient succumbed. The attendants on my arrival were fast asleep, and, by their neglect, had allowed the animal to get into this condition. Here was an instance where recovery was within a measurable distance, and was only frustrated by the culpable negligence on the part of those left in charge. The disease was, of course, increased tenfold, for during my visit at 1 a.m. the pack was in full operation, and later on, or at 4 a.m., it did not require a professional man to discover that the whole of the blood, or nearly so, circulating the skin had been driven back into the system, producing results I have already chronicled. *Under these circumstances, I must impress upon my readers who think fit to try this method, that constant supervision is necessary, otherwise the remedy will not only prove useless, but will give an impetus to the disease.*

(To be continued.)

Editorial.

RETROSPECT AND PROSPECT.

THE commencement of the year 1884 gives a good opportunity, which should be made available, for casting a backward glance over the ascent on which the profession has been slowly toiling its way for some years in these kingdoms, and an upward and forward look towards the ground yet to be traversed and the obstacles to be overcome. For many years after the incorporation of the veterinary profession, progress was as impossible as it was previous to that event, owing to the little interest taken in its welfare by the members themselves, the absence of united action and of individuals to assume leadership, and the pernicious influence of two rival schools, jealous of and competing unfavourably with each other, and extremely hostile to the Royal College of Veterinary Surgeons, whose interference in educational matters they would not brook. It is only within a few years that the march towards improvement began, and this movement has been coincident with the assumption of its duties by the profession, as represented by the Royal College, and the relegation of the schools to their sole and proper function—the training of candidates for membership. Throwing off the fetters which condemned to almost fatal immobility for so many long years, strength has been rapidly developed, formidable obstacles have been surmounted, unanimity has been secured, and results have been obtained which at one time seemed almost impossible of realisation. Only three years ago the members of the profession were not recognised by law, and there was nothing to prevent any impostor from assuming their title and competing with them on equal terms, so far as the public knew or cared to know. This is now changed. The State has taken the profession under its protection, and affords it the recognition given to other valuable professions. No one dare assume any title or designation bestowed by the Royal College on its graduates, and by which they are known to the public; and on the first day of the present month, no person who is not on the Register of Veterinary Surgeons can take or use the title of Veterinary Surgeon or Veterinary Practitioner, or any name, title, addition, or description, stating that he is a Veterinary Surgeon or a Practitioner of Veterinary Surgery, or of any branch thereof, or is specially qualified to practise the same.

The Veterinary Surgeons' Act virtually emancipates the profession from degradation and every kind of discouragement, and places it in a position second to none other in the country, giving it liberty to work its way upwards, without having to contend with the pernicious influences which have hitherto surrounded it, and with such fatal effect. The benefits to be derived from the Act will become more apparent as the years roll by, and render the prospects of the profession brighter than could ever have been anticipated.

Thanks to the strenuous efforts of the Royal College of Veterinary Surgeons, the educational standard of the profession has been rising. But so long as the general educational tests were allowed to be applied

by the different schools in their own fashion and at their own discretion, it was obvious that further improvement in this direction was hopeless, while scientific training must necessarily be imperfect or little better than a farce.

Now that the Royal College has done what it ought to have carried out long ago, and summoned courage to insist that every candidate for its diploma must give evidence of possessing at least a fair general education, in addition to technical knowledge, rapid strides should be made in the professional and social position of its members. The painfully low standard of general and professional education hitherto existing, has done more than anything else to bring veterinary medicine into disrepute and its practitioners into disrespect.

The action and efforts of the Royal College have been much hampered by those whose interests were opposed to improvement, and its right to initiate improvements has been questioned, whenever an attempt has been made. The supplemental Charter recently obtained, together with those previously existing, as well as the Act of Parliament, give it all the powers necessary to improve the profession to any extent it may choose to do, and increase the examination fees, if need be, in order to secure this improvement.

So far, then, the retrospect is favourable and the prospect bright. The profession has had to fight a heavy battle with small means, but it has been amply victorious. The last three years have been the most momentous in its entire history. It has obtained State recognition and protection; it has shaken itself free from the thralldom of the schools, and ensured the public properly-educated practitioners; its members in the Army have done their duty so meritoriously at home and in the field as to earn for themselves not only the special recognition of the general officers under whom they have served, but also to have removed the hitherto insuperable barriers opposed to their receiving Royal recognition in the way of special honours, and the privilege of presentation at Court; while the way to academical honours has been cleared by the magnanimity of the Glasgow University.

It would almost appear that there is now nothing more to complain of or to strive for, so far as the external world is concerned. But it is not so. Much, very much yet remains to be done by those who are willing to do it. The public yet require enlightening as to the great value of our branch of medical science, and the necessity for encouraging competency and zeal. Veterinary surgeons can do much to protect the public health in various ways in which their services have not yet been sought. In the suppression of epizootic diseases it may be said they have had but little to do, owing to the ignorance or short-sightedness of various authorities; hence agriculture is nearly ruined, and the public health and wealth injured by diseases which veterinary sanitary science shows can be extinguished by proper police measures and suitable means.

In the matter of professional education there is a heavy arrears to be discharged; and the suitable combination of science and practice has yet to be obtained. Without a thoroughly scientific training we can make no pretension to be men of science, nor can we act as such; and

unless we can apply our scientific knowledge to a useful purpose we cannot benefit the public. As yet, we in this country have done very little to show that we are animated with the true scientific spirit, and in this respect we are immeasurably behind our Continental colleagues. A literary spirit has lately evinced itself, and this we should carefully foster. It is in the power of every one to benefit his profession by literary work, and especially by the publication of facts and observations, either in an isolated or a classified form. It is at once a source of personal gratification, and even of training, as well as of service to one's brethren—present and to come, and an index to the position of a profession, to contribute as far as one can to the storehouse of facts and knowledge.

“A science of medicine,” says a distinguished medical writer, “must depend upon the classification of facts, upon the comparison of cases alike in many respects, but differing somewhat either in their phenomena or their environment. The great obstacle to the development of a science of medicine is the difficulty in ascertaining what cases are sufficiently similar to be comparable, which difficulty is in its turn largely due to insufficient and erroneous records of the phenomena observed. . . . Very, very few are the men who can, by and for themselves, see and describe the things that are before them.”

Our future is now entirely in our own hands. We have acquired the freedom and legislative protection which were so necessary to our progress and welfare; we have obtained distinctions and favours which were hitherto denied us; every year our responsibilities will become greater, as more will be expected from us, in return for the protection, immunities, privileges, and favours we enjoy. Efforts must be made, and continuously, in the direction of improvement, politically and scientifically; and hesitation, fear, and doubt, which had operated so perniciously on the Council of the Royal College for so many years, must be thrown to the winds when professional interests are at stake.

“Our doubts are traitors,
And make us lose the good we oft might win,
By fearing to attempt.”

Courage and determination are alone needed to ensure political success; highly-trained intelligence, patience, perseverance, and enthusiasm are required to achieve scientific success. These qualities, we earnestly hope, will be conspicuous in the profession in the years to come.

THE CHARACTERS AND NATURE OF THE PROCESS RESULTING FROM INOCULATION WITH THE VIRUS OF CONTAGIOUS PLEURO-PNEUMONIA.

THE nature of the alterations which are observed in any part of the body of an ox or cow into which the virus of Contagious Pleuro-pneumonia has been inoculated, has always been considered special to the malady by those who have attentively studied this plague of bovines. These alterations have been recognised as similar to, if not identical with, those which take place in

the lungs ; hence the feeble witlings who could not understand the pathology of the disease, have been pleased to amuse themselves with deriding the views of those who saw the same process in the lungs naturally infected and the tail artificially inoculated, by referring to "Pleuro-pneumonia in the tail." The silly jest proved nothing. Of more moment to the scientist are the investigations made by those who are anxious to elucidate the nature of the disease ; and the latest of these are by M. Colin, Professor at the Alfort Veterinary School. From the report in which he has embodied the results of these investigations we learn :—

1. The inoculation of the virus of Contagious Pleuro-pneumonia of bovines, results in developing in the cellular elements subjacent to the skin or in the muscular interstices, a process which is, from a histological and pathological point of view, the equivalent of that in the lungs and pleura in Contagious Pleuro-pneumonia. The essential characteristic of this process is the yellow fibrino-albuminous exudates, charged with leucocytes, nucleated epithelium, and various granules, these exudates resembling those produced in the connective-tissue interlobular septa of the lungs.

2. The exudate furnished by the irritated connective tissue, as a consequence of the inoculation, possesses in its fluid part, as well as in its solid elements, a degree of virulency equal to that of the products of the same nature obtained from the pulmonary tissue of animals affected with Pleuro-pneumonia.

3. The virulent elements of the exudate, in order to produce their full local reaction, should be introduced into the connective tissue, which is more particularly their cultivation-ground. They do not appear to have any effect when they are merely deposited in the superficial layers of the skin, unless the cellular prolongations of the derm do not protect the subjacent connective tissue.

4. The considerable swelling of the tail, the neck, dewlap, and all the other parts rich in connective tissue where the insertion of the virulent matter may be made, as well as the gangrenous and other accidents which are sometimes noted, are not due to septicity of the matter, but to its penetration to the points where it is cultivated and regenerated too readily.

5. Nevertheless, in practice it is better not to employ altered virus, as the alteration, according to circumstances, complicates and aggravates the effects of the inoculation, often even annihilating them by destroying the virus.

6. Inoculation by the ordinary procedure does not appear to confer immunity unless it is followed by reaction, manifested by more or less extensive tumefaction, œdema, and exudation.

7. The degree of immunity resulting from inoculation appears to be proportional to the intensity of the reaction consecutive to the operation. Immunity is acquired with difficulty by superficial dermic insertions not followed by swelling ; and, after these insertions, intra-cellular inoculations are followed by serious, often fatal, accidents.

SWINE PLAGUE.

THE study of Swine Plague, commenced recently by Pasteur, and its microbe or bacillus, discovered by his lamented colleague, Dr. Thuillier, who a short time ago died of Cholera in Egypt, has been making rapid progress in France, where the scourge is known as "Rouget." M. Pasteur has recently found that by passing the bacillus of "Rouget" of pigs through rabbits, he can effect a considerable attenuation of the disease

virus. He has shown that rabbits inoculated with the bacillus of Rouget become very ill and die, but if the inoculations be carried through a series of rabbits, a notable modification results in the bacillus. As regards the rabbits themselves, no favourable change occurs—they are all made very ill or die. But if inoculation be made on pigs from those rabbits at the end of the series, it is found that the pigs have the disease in a mild form, and, moreover, that they enjoy immunity from further attacks of “Rouget.” This simply means that the rabbits have effected, or the bacillus has undergone whilst in them, an attenuation of virulence. So the pigs may be “vaccinated” with the modified virus, have the disease in a mild form, and hereafter be protected from the disease. Mention may be made of some collateral experiments of Pasteur, also performed recently. Briefly, it has been discovered that the bacillus of the “Rouget” of pigs undergoes an increase of virulence by being cultivated through a series of pigeons. Inoculations from the last of the series of pigeons give rise to a most intense form of the disease.

By successive cultivations at different temperatures, the bacillus is also deprived of much of its virulent property, and its inoculation exercises a protective influence on the pigs so inoculated. In the name of Veterinary Surgeon Maucuer, a note on this subject was recently read by M. Bouley, to the Paris Academy of Medicine. He had inoculated a number of pigs with the cultivated virus, and during an exceptionally severe and deadly outbreak of the disease, which carried off all the porcine tribe in the district except those so inoculated, ample proof was afforded of the efficacy of this protection. “All the ‘vaccinated’ pigs, without exception, resisted all the possible causes of contagion. They cohabited with the diseased; they lay on litter impregnated with the dejections of those which were moribund; they ate out of the same troughs with the victims of Rouget; they have even been shut up for twenty-four hours with those which had succumbed; and they now continue to live in non-disinfected pigstyes. The success is admirable.”

EVERY-DAY MATTERS IN AN INDIAN MILITARY VETERINARY PRACTICE.

BY J. H. STEEL, M.R.C.V.S., A.V.D., IN VETERINARY CHARGE, R.A., H.S.F.,
SECUNDERABAD.

WRITING from Secunderabad, in the Deccan, my object is to convey to English practitioners some idea of what we have to think about from a professional point of view here, to give young Army veterinary surgeons a little notion of what they may expect to have to do when they come out to India; and, finally, to make a few observations which may contribute to our knowledge of geology and geography in relation to disease. On landing in Bombay, one is immediately thrown among Arabs, and is apt to be deceived by the great normal development of the hocks of these beautiful animals, to mistake thickenings of the skin of the pasterns (the result of friction and pressure from heel-rope) for Ring-bones, and to *over age* any submitted to him for examination; for, as Arabs have hard food from the time they are weaned, their marks are soon lost; indeed, it may be taken as a rule, that *mouths wear more quickly in India than at home*, the bulk of fodder consumed is greater and more gritty, also the grain is generally imperfectly cleaned, and so contains stones. The Arab, as concerns development, is more forward than the Australian, and the latter less so than the English horse. Horses of the Persian Gulf, “Gulf Arabs,” as they are

termed, to distinguish them from Arabians generally, carry a cicatrix indicating the seat of the wound made in the removal of a portion of one of the cartilaginous alæ of the nostril, with a view to "improving on nature" (a desire as common in the East as in the West), and bringing up the animal nearer to the Arab standard of what a horse should be, "his nostrils like the mouth of a roaring lion." Throughout the country, but especially at Poona, one notices a peculiar attempt at something of the same nature, to open up the naturally small nostrils of the donkey. Almost every one in the numerous droves of diminutive pack-asses driven through Poona has the interior of the false nostril exposed by a double incision, in such a way that the flap of semi-excised tissue hangs in a most peculiar manner, and, one on each side, wags to and fro as the little animal ambles along. On landing, we at once notice the topis, or pith helmets, worn by the tramway horses to protect the brain from the direct rays of the sun. Whether or no such a precaution is necessary will constantly be debated. Doubtless the tramway authorities have learnt this necessity by experience: the work of their horses seems to be severe, and to involve much exposure. In very many stations artillery stand in the open: native cavalry horses do so almost everywhere. Generally the animals have protection from the vertical rays of the sun by lines of trees with good expanse of branches, and fortunately in the hot weather foliage is very plentiful, so as to afford a good deal of shelter. Others, however, have to stand without such protection. Imagine the state of these poor animals in the hot weather, standing on a red soil, so hot as to render their iron shoes scarcely touchable, and which reflects a glare which we do not exaggerate in calling "terrible," with huge granitic masses close by, shutting out any breath of air, and increasing the general glare and glow; air rising from the ground on every side, so that from a short distance streams of it are visible flowing upwards, in the manner familiar to us at home in connection with gas in church. When Europeans are tossing on their beds in carefully-darkened rooms, under punkahs, cursing the day of their arrival in India, these poor horses stand exposed, although many of them are natives of a much less ardent clime. It is wonderful, however, how little they suffer in consequence, apparently. There are a few cases of apoplexy, and generally a very marked falling off in condition, but few immediate deaths. However, it is a very serious and important question whether there are not *after effects* which are apt to escape observation. Animals which are roaming at large, during the heat of the day seek some shady spot and sleep; they can shift their position in accordance with emergency; huge buffaloes wallow in the semi-dry mud of tanks and hollows; almost every living thing finds shelter of some kind. Native orderlies, and such like, go about with thick coverings over their heads; other natives, like the rest of nature, repose *in siesta!* But the troop-horse cannot escape from his lines to seek welcome shade: the jhool (blanket), thickly eight-folded along his back, protects his spine to an extent, but is soon shifted as he moves about uneasily, trying to drive away tormenting insects. He is not obliged, like animals turned out to find their living as best they can, to roam over a great extent of country, in the endeavour to obtain a precarious subsistence from ground which encloses the valuable hariali grass *under* its hard, baked surface, and affords only thorny and prickly shrubs such as have been enabled by their natural defences to withstand the raids of goats and cattle driven mad with hunger, and reduced to skeletons. The troop-horse is well fed, too often receives as much and as heating food during the hot weather as during the cold, through mistaken economy; he gets practically no work (during the hot weather), and often his hour's morning exercise is sadly curtailed through turning out late or coming in soon, to avoid the sun; too often evening exercise is forgotten or neglected. What wonder, then, that LIVER DISEASE is so frequent in

India? The prolonged heat, exhausting the powers of nature, predisposes to disease when the monsoon suddenly "breaks," and, of course, our horses, which have been specially treated as though destined to the production of *pâte-de-foie-gras*, crowd the infirmary suffering from Liver Congestion, its varieties and sequelæ. Although at home we may have seen but little Liver Disorder (perhaps more frequent than is generally supposed), we very soon learn that in horses, as in men, *the liver is the organ most liable to disease out here*. Pulmonary disease is proverbially infrequent. There is one form of Lung Disease which I have observed in India, and not at home, *Œdema of the Lungs*. It is one of the complications of Liver Disorder. At first we are apt to mistake acute disorder of the Liver for Pleurisy: the symptoms are similar to some extent. *Post-mortem* examination generally shows that the diaphragmatic peritoneum has been inflamed. Catarrh, Broken Wind, and Coughs occur here but seldom. I have not in eighteen months seen a case of primary disorder of the urinary apparatus. With the exception of lameness, and injuries of various kinds, four-fifths of the cases in this station are due to liver derangements, and of the remaining fifth one-half are disorders of the skin. Let us, in a conversational sort of way, look into this statement, and deal with the various headings under which the cases occur on our books in conformity with the exacting, but necessary, requirements of official routine.

COLIC in India is generally due to sand in the bowels, grain bad in quality, quantity, or mode of preparation, bad grass, or Liver Disorder. Now, among the horses under my professional charge I almost invariably get the latter form. The following are my proofs: *A priori*, the horses are, in spite of representation to the authorities and the wishes of the battery officers, given too stimulating food throughout the hot weather, when, by regulation, they have to be in by a certain hour in the morning, and the evening is not suitable for any but very gentle exercise. The excuse is that because bran cannot be obtained in sufficient quantity for all Government horses in the station, *none* shall have any. A very false principle to work upon, to my mind. Secondly, the grain and grass are prepared on most approved methods, and cases of Flatulent Colic are not frequent. Thirdly, Jaundice is more or less marked in almost every case. Fourthly, Colic is frequently the earliest noticed symptom of indubitable Jaundice, and those cases which are liable to Colic almost invariably are subject to Liver Congestion and its sequelæ. Finally, I have observed that after death, or destruction from other causes, autopsy shows that the liver has been or is diseased. Most cases which succumb to Liver Disorder (about 2 per cent. of the total number of cases of Liver Disorders) have the organ in a complete state of atrophy—very small and light—quite incapable of doing its work. I have seen it enlarged in one case, and in another portions were sloughing away.

FEVER.—The frequent entries by my predecessors in this charge, of cases as "Simple Fever," recall to my mind the statement of PERCIVALL, one of the most exact clinical observers, that Simple Fever seldom or never occurs in the horse. I have seen nothing since my arrival in India to lead me to differ from this view. I, of course, do not dogmatically state that I, and I only, am correct, but I fancy most cases of "Simple Fever," so called, are incompletely diagnosed cases of Choliasis, or Bile Poisoning of the Blood. This is a question of the greatest import in veterinary practice. The cases to which I refer are generally characterized, sooner or later, by yellowness of the membranes, petechiæ of conjunctiva and pituitary, and the so-called "bloody urine," also petechiæ on the skin entered as cases of Urticaria, Erythemata. Fever often runs high, but the pulse is remarkably small. Such cases are frequent at the commencement of the rains, and occur in patients which have the reputation of being "livery subjects." I have no

evidence that herbivora suffer from Intermittent or Remittent Fever: they certainly are not very liable to Spleen Disorder. *The dog, on the contrary, seldom suffers from true Liver Disease in this station: his spleen is generally affected.* Dogs of fancy breeds here generally succumb to progressive Anæmia, associated with Remittent Fever, and atrophy of the spleen.

ANTHRAX.—I cannot help thinking that during an outbreak of Anthrax many cases of Choliasis are mistaken for the more serious disease. Detection of true bacilli in the blood is *the* diagnostic symptom of Anthrax. Without this, however shrewd may be our suspicions, we cannot rely upon our opinion. When first I came to this station I was (and have been since) on the *qui-vive* for Anthrax. My first doubtful case was one of sudden death in a patient suffering from Liver Disorder. I found the spleen enormous, the tissues yellow, the liver very small, and neither frothy evacuations from the respiratory passages nor local swellings about the throat, etc., preceding death. Had this case occurred in England, I should not have had the least doubt as to it being a well-marked one of Choliasis. Being in India, I carefully examined the blood, and found no bacilli. Every now and then a death has occurred of the same nature, and in all cases traceable to antecedent disease; but the indications of Blood-poisoning are always well marked, and the liver diseased primarily. *I cannot help asking myself whether some of the so-called sporadic cases of Anthrax are not of this nature.* Of course, I may be all this time labouring under a gigantic professional error: it may be owing to my happy star that disease has not, during the last eighteen months, decimated the horses under my charge, and all the cases which I enter as Choliasis, or Cholæmia, or Choloria, may be Anthrax. But I am firmly of opinion that there is no error here. And the aggregate number of medical cases and of deaths during the time I have been in charge has not proved above the average.

LYMPHANGITIS AND ŒDEMA are serious accessories of Liver Disorder, the former a sequel, the latter a complication, or rather symptom of Choliasis. *I am convinced that Inflammatory Œdema can almost always be traced to primary Liver Disorder.* It is so frequently the case that an animal which has had several attacks of Liver Congestion, and whose permanently emaciated condition shows hepatic inadequacy, becomes thoroughly incapacitated by Œdema. I have had two such cases within the last week.

SKIN ERUPTIONS of sorts, so frequent in India, are often due to hepatic derangement. The pathology of that form variously described as Psoriasis, Prurigo, Erythema, and Prickly Heat is uncertain; but it is at any rate “on the boards” that it may be caused or associated with the presence of sand in the bowels; or it may result from over-work, thrown on the skin in compensation for imperfect action of the liver. On *post-mortem* examination in bad cases of this skin disease, we generally find the liver small, and having white calcareous nodules disseminated through it (probably the result of lobular atrophy. They have been considered kŭnkŭr, but seem rather simple calcareous degenerations. True, kŭnkŭr is, however, sometimes found in the liver). Boils indubitably are associated with liver derangement. And generally we shall find that cases of Urticaria, those sudden and evanescent eruptions of spots over the greater part of the skin, are only petechial manifestations of Choliasis. In proof of the high state of functional activity and predisposition to disease of the skin in the Tropics, I may state the following facts:—

- (1) Blisters require to be weaker than at home.
 - (2) A crude castor oil supplied for burning purposes, if used by mistake for bland oils as a wound dressing, excoriates the skin over which it trickles.
 - (3) The same result follows use of carbolic oil stronger than 1-8.
- PURPURA HÆMORRHAGICA can hardly be considered as a recognised disease; it is rather a term applied sometimes to Choliasis, sometimes to

Anthrax, sometimes, perhaps, to a disease different from either. The various forms of Influenza ("Pink-eye," Epizoötic Cellulitis, etc.) are characterized by sudden and extreme prostration of strength, different from the gradual, cumulative effects of Liver Congestion. There is only one matter which I wish to notice as concerns the treatment of Liver Disorder, and that is *the use of sal ammoniac*, a remedial agent the value of which is not appreciated at home: it relieves congestion of internal organs, notably the liver, and acts beneficially on the blood in counteracting disintegration under the influence of bile salts. It may be usefully combined in slighter cases of Liver Disease with the indigenous tonic, chiretta.

The remarks which I have made about Colic in India being generally due to Liver Disorder, must not be misconstrued into negation of the importance of other kinds of COLIC. During the very dry weather we sometimes have difficulties about the water supply. This is obtained from a perennial well, and conveyed to the different water-troughs by pipes, the taps of which are turned on at certain hours. Under ordinary circumstances this is quite sufficient, and works very satisfactorily; but sometimes the natives who have to pump up water, give way to somnolence, and the supply runs short; at others the pipes burst, then supplies have to be brought from the various neighbouring wells in water-carts. From some wells the water is very good, but others are contaminated with decaying animal and vegetable matter, or drainage from rice-fields or villages. In spite of the greatest vigilance, the natives *will* obtain water from bad wells, and Anthrax has been attributed to this source. But the most important question here is *whether Colic is ever caused by animals being watered at different times from various sources*. Possibly it is; but there are other influences at work as Colic-producers about this time. Scantiness of drink in very dry weather may be one of these: certainly *horses in the hot weather, unless well looked after, are very apt to suffer from too little drink*. Again, the grass is now scanty, dry, and difficult to procure, and requires the greatest care in exclusion of coarse fibrous roots, which are liable to irritate the bowels, and to become so matted together as to give rise to Colic. It cannot be too much impressed on the minds of combatant officers, who have, under the advice of the veterinary surgeon, to examine the grass ration, that good Hariali or Dhub grass consists at this season mainly of *underground stems*, not roots: the latter are to be excluded from grass bundles as much as possible. Sometimes the bundles consist almost wholly of fleshy underground parts, which are moist, and contain much nutriment, doubtless; but horses refuse to eat them, on account of their bitter taste. About this time the tanks (artificial ponds) degenerate into stagnant puddles, and smell very strong of a mixture of decomposing vegetable matter, animal excreta, and the washings of dirty clothes. The drainage of those horrible stink-pits, or rather "traps," which occur at intervals around cantonments in India, and which are indicated by dry bones, ashes, broken bottles, and other ejecta, also finds its way into the tanks at which animals and men drink. In this horrible infusion the grass-cutter washes her bundle, and then, having repacked the grass, carries it to her hut, with the reeking odours of which it becomes still further impregnated, especially as fermentation commences in it during the course of the night. The next morning such grass is very apt to cause Colic. In gathering particles of grass from the floor of the standing, or under the influence of depraved appetite, horses are apt to pick up much sand; this is supplemented by round pebbles, small pieces of granite, etc., taken in with the grass when the latter has not been sifted with care, or has been washed in the water in which it is boiled. This "gravel" accumulates in the large intestine, especially the colon and the cæcum, where it is apt to remain for a considerable time, until at length enormous quantities have aggregated. The

most formidable result of this is rupture of the bowel, of which I have had one case in which it was a matter of importance to decide whence the gravel came—whether from sand beds, which the major of the battery made use of to prevent surface abrasions of the points of the hocks, fetlocks, hips, etc., from hard floorings and scanty supply of bedding-grass (Indian horses as a rule eat a straw bed), or from the grain not having been properly cleaned, or from a previous station before the horse came into the battery. The latter is not so improbable a source as might seem at first sight, because, as Veterinary Surgeon (First Class) Adams has clearly *proved*, sand may be retained for as long as eight months. Careful examination could only lead me to decide that all three causes were probably in operation; for I found, firstly, a large quantity of fine sand, probably of recent introduction; secondly, the characteristic spherical pebbles of the black cotton soil from which the coolthee (grain) had been raised; and, thirdly, granite fragments and splinters, often blackened by the action of the digestive juices, and rounded by mutual friction during a long period of subjection to intestinal movements. About the commencement of the wet weather horses begin to pass much sand in their fæces; sometimes this is preceded by slight Colic, in which cases oleaginous purgative doses are indicated. Whether the irritation of the lining membrane of the bowels by this gravel is a cause of skin disease has not yet been determined, but is well worth careful investigation.

We seldom make a *post-mortem* examination of a horse here without finding the lining membrane of the stomach more or less invaded by round worms—the *Spiroptera megastoma*. Some of the “abodes” of these round worms are very large, others only small hard tumours, from which, on incision, much dense pus escapes, in which, on careful examination, may generally be found a small worm. Doubtless the ravages of these parasites give rise to depraved appetite, and possibly they may cause Colic. But be that as it may, it is certain that occasionally very marked ill effects result from *Spr. microstoma*, as in the following case. An old cavalry horse fell away in flesh to a very marked degree; his dung was horribly foul, his appetite insatiable, and his movements were irregular and capricious. These symptoms continued through several months to gradually increase in intensity, and at length he died of Anæmia. No colicky symptoms occurred throughout the case. Autopsy showed the whole bilious portion of the gastric mucous membrane covered by a felting of minute round worms embedded in mucus. Indeed, *parasites in general are very frequent in India*, the most noteworthy, besides those above-mentioned, being *Amphistoma Collinsii*, *Strongylus armatus Echinococci*, bots, *Filaria papillosa*, and worm in the eye; also *Oxyurides* as passed *per rectum*. I have not found *Str. tetracanthus* and tape-worms so frequently here as at home. These numerous forms of animal life seem to be intimately associated with the system of feeding on fresh grass, but most Australians bring worms to this country with them. I cannot leave the subject of Colic without noting *the influence of runnah grass*—that is the dried “long grass” obtained from the open land around cantonments, preserved stacked in the battery straw-yard until required for use, either mixed (4 lbs. daily) with the green grass, or used instead when, towards the end of the hot weather, enough fresh grass cannot be procured. This runnah grass is very useful for feeding purposes, as consisting of an admixture of various species; but it is a most important matter to decide when is the best time for cutting it. The land-owners and contractors prefer that it be left late, until almost all the species have attained a maximum total bulk, and all except the latest have shed their seeds. This spent grass is little better than so much straw, from a dietetic point of view. So this year a committee on forage has been sitting, with a view to determining what best may be done with a view to obtaining good runnah, and being in future able

to dispense with those intractable nuisances, the women grass-cutters. The only outcome of this committee's work, as yet, seems to have been that our supply of runnah was better, as having been cut earlier. One practical objection was found, which, however, does not prove insuperable. Among the earliest species is the spear-grass, the barbed sharp awns of which penetrate the buccal membrane, and cause the animal to go off his feed, slaver, and swell below the jaw. These barbs require to be carefully removed from the membrane. Moreover, some slight cases of Colic seem to have been due to irritation of the mucous membrane of the alimentary canal farther backwards by them. While writing this, I was called to a case which proved instructive in several respects. It was one of RUPTURED STOMACH, the first I have had to deal with in this station. Its symptoms were well developed, when we consider them *post-mortem*. There was first of all an attack of simple Colic apparently, which seemed to yield to treatment, however; the pulse was forty-eight, and rather small. This was when the peritoneal and muscular coats gave way, allowing the more extensible mucous membrane to bulge through the rent. Several hours afterwards the animal plunged forwards, and fell dead. Then the mucous coat gave way, and the stomachic contents escaped, the solid into the omentum major, the liquid filtering through this into the greater peritoneal cavity. The cause of the mischief was very evident. The coats of the stomach were weakened by parasitic invasion at the seat of commencement of the tear. The stomach was even now full of dryish grass, consisting of masticated hariali, as taken during the night, and of very coarse runnah, chopped to pieces about one inch in length. The runnah had been given mixed with the feed to prevent the latter being "bolted," but it and the feed had been swallowed unmasticated. This short runnah had proved actively irritant, as denoted by the high colour of the lining mucous membrane of the stomach, and also by the fact that at a place where a compact mass of it had become impacted (where the duodenum crosses the spine) there was a high state of Congestion of the Bowels. When the animal drank his water in the morning the addition to the contents of the overlaid stomach proved the "last straw," and its attenuated and diseased walls gave way. *Thus we have it proved that chopped runnah is worse than unchopped, for the latter must be masticated; and that Spiroptera in the stomach are a powerful factor in the production of some cases of rupture.* COOLTREE, the pulse food used in this station, is the seed of *Dolichos uniflorus*; its grains when boiled resemble coffee-beans, and the water remaining is a rich gelatinous fluid, highly nutritious, and with an almost tempting smell, something like that of cocoa. There are two kinds of coolthee, the *black*, which we mostly get here, and the *grey or Bangalore* kind. The latter must not be mistaken for the immature seeds, which are devoid of colour, small, and shrivelled. Both forms are liable to contamination with stones, foreign seeds, immature and weevil-laden grain. The external coat is so tough that boiling is necessary to render the pulse digestible. When this has been done over a slow wood fire for five hours, the grain becomes one and a half its bulk. The coolthee water should just suffice to boil the grain. Generally in practice there is much left, which should be given to the horses, or such of them as will drink it. In some batteries it is given to the bullocks, and in others to the grass-cutters. Both bullocks and grass-cutters like it, and thrive on it, but the horses should not lose so much nutriment. I have not made a chemical analysis of "grain-water," but it sets as a thick rich jelly, and so must contain many valuable nutritive matters. I may quote a case in proof that it does. A Horse Artillery trooper suffered from Hæmaturia, a sequela of Liver Congestion, and, refusing all ordinary articles of sick diet, such as linseed tea,

bran mash, etc., was at last tempted with grain-water. He practically lived on this, in spite of the drain of blood from the urinary organs and Diarrhœa, which set in later, for three weeks. In a cavalry regiment, recently stationed here, cases of Ruptured Stomach were frequent. This was attributed to *the use of cooked food*. From the time of Professor Dick, it has been a subject of debate whether it is advisable to cook food for horses. The reason why it is done here, is that the total expense of purchase and boiling of coolthee is less in this station than that of purchase of Bengal grain (chenna). It is debatable whether this is not a penny-wise, pound-foolish system; for not only is there the greater risk of rupture of the stomach (and perhaps Liver Disorder), from the horses bolting their food; but on service in most parts of India coolthee is not procurable, and stomachs accustomed to cooked food, when called to digest uncooked grain, are liable to be upset. On the march through the Madras Presidency, generally several changes have to be made from chenna to coolthee, etc., etc. Some horses refuse to eat coolthee, but few, if any, reject chenna.

(To be continued.)

THE BORDER COUNTIES VETERINARY MEDICAL ASSOCIATION.

IT is particularly gratifying to be able to announce that an Association with the above title has been formed, and that it is likely to prove a success, as it meets a want which has long been felt by veterinary surgeons in the Border Counties. Under the elected office-bearers, the first year promises to be interesting and encouraging.

Proceedings of Veterinary Medical Societies, &c.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

(Continued from page 421, vol. xvii.)

5. Should a consultant find the ordinary veterinary attendant has misunderstood the case, or, it may be, committed a grievous error, he should, while doing his duty to the patient, endeavour to shield his brother practitioner from the obloquy and prejudice which are sure to be accredited to him for an error in judgment; for who, it may be replied, has not in the course of his professional life committed like grievous errors, of which the still small voice within is alone cognizant and the sole accusant.

6. When a practitioner is called to an urgent case in another's practice he should, when the emergency is provided for, resign the case; but he is entitled to charge the client for his services.

7. When a practitioner is called in to or consulted about a case under the care of another veterinary surgeon, he should on no account interfere (except in emergency), but request a consultation with the gentleman in previous attendance.

8. If the client is capricious and obliges his ordinary veterinary surgeon to relinquish his patient, and explains this to another veterinary surgeon, the latter is exempt from dishonourable conduct in taking up the case.

9. When a practitioner is consulted at his own residence, it is not necessary, but better, to inquire if the patient is under another's care, so as to arrange a consultation.

10. When a practitioner has officiated for, or been called in consultation by, another, and the ordinary veterinary surgeon has resumed exclusive

attendance on the case, the former should not under any pretext, friendly or otherwise, visit the case.

11. In case of accident or sudden illness, and neighbouring veterinary surgeon being called in, should request the usual veterinary attendant to be sent for, and at once resign the case to the latter on his arrival.

12. In like manner, when a veterinary surgeon is asked by another practitioner's client to examine a horse as to soundness, if he can ascertain that the examination has already been made by his own veterinary surgeon, he should courteously but firmly insist on a consultation before expressing his opinion.

13. A retired practitioner should abstain from giving gratuitous advice, for to dispense with fees which may justly be claimed is defrauding the faculty, therefore unjust and unprofessional.

SECTION 6.—*The Duties of Practitioners when Differences occur between them.*

1. Publicity in cases of ethical disputes should be avoided, as generally society fails to understand or will not care to enter upon the merits of the disputants, and injury may be done to one or other of the parties ; therefore it is better to refer to a Court of Veterinary Arbitrators.

I propose, though as a secondary consideration, that every veterinary medical association should appoint three of its members as an Ethical Committee for arbitration, with power to take their President into consultation, and, if necessary, to bring the matter before the members of the Association.

Where the disputants are not members of any association, a local Ethical Court could be formed, by reference to three practitioners being agreed upon as arbitrators.

In all cases of arbitration a written statement of the charges preferred, and a like answer thereto, should be required from the respective disputants, with such affirming or rebutting testimony as may be essential to elucidate the facts of the case ; and after giving careful consideration to the evidence adduced, the members of the court should give their opinions in succession, beginning with the junior, so that he may not be influenced by the opinion of his senior.

As a rule, however, no arbitration should be undertaken until the accusant has, either in person or by note, communicated with the accused on the subject of complaint, and failed to obtain an explanation or redress.

It may here be well to repeat that experience and observation leave little doubt that, in numerous instances, professional differences arise from some misrepresentation or suppression of the truth (a fruitful source of the unhappy differences, heart-burnings, and jealousies, which too frequently disgrace our profession !) by clients or their friends, rather than direct unethical conduct on the part of the practitioners. Be that as it may, it is equally the duty of every one who thinks himself aggrieved, to dispassionately consider whether he really is so, for unhappily some men are so morbidly sensitive, suspicious, and jealous, that even were they to be associated with (so to speak) mundane angels, they would fancy their ground invaded, and their rights and self ignored. A medical man should ever be slow to admit that a brother practitioner has knowingly and intentionally wronged him ; a little reflection and reasonableness would often suggest an explanation of conduct that, at first, may seem offensive or selfish.

Assuming, however, that he is really injured—that a neighbouring practitioner has acted unethically, and, mayhap, repeatedly so. What, in such case, is to be done ? His duty is certainly, as yet, not to publish to the world his personal quarrel, for professional quarrels are discreditable, and not to

be lightly proclaimed. Moreover, when a man is clearly in the right, he can afford to exhaust all gentle means of remonstrance and redress ; and, in strict accordance with both scriptural and professional ethics, he should either in person or by courteous note, "go and tell his brother his fault" privately. Should that fail, and the aggrieved party be ultimately obliged to refer the matter to the arbitration of a mutual professional friend, or to a "Court Medical," even then his object should be, not that the offender should be "shunned," but effectually rebuked and convinced of his error. Such object is, in many cases, more likely to be gained by private than by public means. But, as there are men in the veterinary, as in other professions, who can only be effectively influenced by public censure, under certain circumstances the action of the Ethical Court would be a perfectly legitimate *dernier ressort*.

CHAP. III.—ON THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

SECTION I.

1. It is the duty of the faculty, as good citizens, to be vigilant for the welfare of the community, especially to advise the public on matters appertaining to the profession, such as veterinary sanitary science and police, giving information as to regulations and isolation on the outbreak of infectious or contagious disorders ;—also as to drainage, water supply, ventilation, etc., of the habitations of domestic animals, to ensure their health, the importance of which is daily increasing, as the knowledge of the communicability of diseases from the lower animals to mankind becomes more widely recognised.

2. Veterinary surgeons should always be ready to assist the legally-constituted authorities by enlightening them on matters pertaining to the profession—and not least of these is the prevention of cruelty to animals. This is of importance, inasmuch as the prosecutors are often led away by sentiment, kindly meant but erroneous, from their ignorance of animal organization, hence the value the authorities attach to a veterinary surgeon, which should be jealously upheld by strict adherence to truthful testimony. A skilled witness should never allow his personal feelings to overcome his sense of justice.

The fee for attendance in Court is often inadequate, and it may be prudent for a practitioner to stipulate for a specified fee, as is the rule with counsel.

SECTION 2.—*The Obligations of the Public to the Profession.*

The public ought to entertain a just appreciation of a veterinary surgeon's qualifications, obtained by a long course of education, apprenticeship, and study, involving time and money, without the slightest aid from the State. How much has been done in the suppression of contagious diseases such as Glanders, Mange, etc., the improvement in ventilation of stables, saving of horses' feet from mutilation by the diffusion of knowledge—the outcome of persevering veterinary research.

They (the public) should discountenance the employment of charlatans and assuming dabblers in medicine, and also the use of quack remedies and advertised secret nostrums, which too often have a baneful influence on the dumb sufferers, and are ignorantly and injudiciously used, even to the sacrifice of animal life, and therefore are a public fraud.

CHAP. IV.—THE RULE OF THE PROFESSION ON COMMENCING PRACTICE.

1. A practitioner in commencing business should call on all the local practitioners, and courteously announce his intention of settling in the

neighbourhood, and should encourage social intercourse and friendly feeling for his own good and the professional welfare.

Gentlemen,—Having now introduced the subject of Veterinary Ethics, I leave the matter in your hands for discussion ; and I hope the first Ethical Committee will be formed in our Association, and to-day, to consider the advisability of introducing a code of rules which may be recognised by the profession, and to invite the co-operation of the National and the other Veterinary Medical Associations in carrying out the ideas suggested.

I have to thank you all for your very courteous attention to what, I fear, has been of necessity a dry subject.

Captain RUSSELL had listened with very great pleasure to Mr. Stanley's essay, in the sentiments of which he fully concurred. It was advisable to form a Committee to prepare a code of rules for consideration at a future meeting. He hoped that no member of the Association would have occasion to bring any matter before the Consultation Board. They could not expect, however, to find every one working for the common good. He hoped to see greater harmony among members of the veterinary profession and more regularity in regard to fees.

Mr. GREAVES was deeply grateful to Mr. Stanley for his able paper. The subject had been handled in a gentlemanly manner, and much could be learned from it respecting professional ethics. He enquired if the meeting considered it would be in accordance with professional etiquette for a member of the Royal College of Veterinary Surgeons to hold a consultation with a registered practitioner.

Mr. E. STANLEY considered that in the interest of their patients such consultations were advisable, but the matter must be left to individual tastes.

Mr. GREAVES expressed his approval of the formation of a committee to frame a code of ethics.

Mr. MEEK thought members would do well to "read, mark, learn, and inwardly digest" the paper, and try to act up to the standard therein laid down.

Mr. PROCTER felt that the essay was a useful guide, but feared that the formation of a court of enquiry would be fraught with mischievous consequences.

Mr. BLAKEWAY confessed that on seeing the subject on the agenda paper he had an apprehension that it would diminish the attendance that day. It was a question of vital importance. How often men in high positions bribed the coachmen in order to get employment, and when called in for a consultation, they tried to supersede the regular practitioner. How often gentlemen were seen in the law courts, condemning the conduct of their brethren who performed operations necessary for the patient and beneficial to the owner. It must not, however, be supposed that members of the Royal College of Veterinary Surgeons were the only professional gentlemen whose conduct needed reform. (Hear, hear.) He knew a medical man who, on being called in to see another's patient, denounced the treatment as radically wrong before he had heard what the treatment was. Another said to the client of a brother professional, "I should have thought that your attendant believed you to be a man with a deep pocket, and wanted to make a purse out of you." (Laughter.)

Mr. PARKER added his meed of praise to Mr. Stanley, for the care and ability he had displayed in preparing an essay which was calculated to be of great benefit to the profession generally. He deprecated laying down a hard-and-fast line of professional ethics.

Mr. TIPPER was opposed to the formation of an ethical board. It was not expedient to restrict individual liberty. When the proposed code of ethics

came into general operation, he should expect to see the lion lie down with the lamb and the millennium dawning. Some portions of Mr. Stanley's paper required to be answered by an essay.

Mr. H. STANLEY urged that the importance of the subject could not be overrated. He was especially desirous of seeing the number of consultations increased, believing that, as in the sister profession, it would result in greater success. He considered that if proper attention was given to the paper, it would prove more useful than many of the papers that had been read on special diseases.

The PRESIDENT hoped that Mr. Stanley's paper would be fully published in the veterinary journals, and that members would bring it under the notice of their clients, that they might see what manner of men veterinary surgeons were. Their desire was to act up to Mr. Stanley's standard; let the public know that theirs was a noble profession, and one which aimed at relieving the sufferings of the brute creation. He feared that few members would be inclined to appeal to an ethical board, and suggested an umpire as the less objectionable alternative. He regretted that good people were so ready to bring charges of cruelty to animals for docking horses' tails, and thought that some of the heads of the profession outstepped the bounds of discretion by their frequent appearance in the law courts. He concluded by proposing a vote of thanks to Mr. Stanley for his admirable paper.

Mr. OVER seconded the proposition, which was carried with acclamation.

Mr. STANLEY, in acknowledging the compliment, said he was a little disappointed at the meeting not having taken some steps for preparing a code of rules for the guidance of the profession. They might submit such a code to kindred associations. He disclaimed any intention of constituting a few members into a judicial committee.

Mr. GREAVES understood that the essay did not contain a code of rules.

Mr. STANLEY replied that he had prepared it in the form of a code.

Captain RUSSELL proposed: "That the President and two senior members of the Association do form a Committee to consider the desirability of drawing up a code of rules of professional etiquette for the consideration of other associations, and report progress at the next meeting."

Mr. H. STANLEY seconded the motion.

Mr. TIPPER considered that if rules were framed they must be compulsory, and that compulsory rules such as those suggested by Mr. Stanley would break up the Association.

The proposition was negatived.

A telegram was read from Mr. Cox (5th Dragoon Guards), promising a paper at the next meeting on "Equine Asthma."

LINCOLNSHIRE VETERINARY MEDICAL SOCIETY.

THE quarterly meeting of the Lincolnshire Veterinary Medical Society was held at the "Peacock and Royal Hotel," Boston, on Thursday, November 1st, the following gentlemen being present: Captain Russell (Grantham), President, in the chair, and Messrs. Carless (Lincoln), Secretary, W. G. B. Dickinson (Boston), Hoole (Hemington), Mackinder (Peterborough), Runceman (Market Deeping), Wyre (Donington), and G. Whitworth (Grantham).

The CHAIRMAN expressed his sorrow that there was not a larger attendance, but said that no doubt he and the secretary were to blame because more gentlemen were not present. It had escaped their memory that the previous Thursday was the last Thursday in the month, and the one on which their meeting should have been held. Having discovered their mistake, they made all haste to hold the meeting as soon as possible, and no doubt

the alteration in the date had been inconvenient to some gentlemen, and had prevented their attendance. He and the secretary would take care that such an error did not occur again whilst they were in office. He hoped their meeting would be an interesting one, and that the paper they were to have at the hands of Mr. Whitworth would give them sufficient reward for their presence.

The SECRETARY then read the minutes of the last meeting, and they were confirmed. He said that with regard to Mr. Batchelor's proposition, made at their last meeting, respecting unqualified men being allowed to hold the appointment of inspectors, he had received a letter from Mr. Fleming asking him not to press the resolution, but to hold it over for a while; therefore he had done nothing in the matter, and as Mr. Fleming had promised to see into it himself, he thought they would be justified in holding it over until their next meeting, when they might have the question decided. Mr. Fleming had promised to bring the matter before the Privy Council himself, and that was the reason why he did not want them to press the resolution.

The CHAIRMAN observed that at a meeting of the Midland Counties Society, held at Leamington on the 20th of September, this matter was brought forward, and a large amount of discussion took place, and a quantity of correspondence was read, but nothing was done in the question.

Mr. MACKINDER said that the Act of Parliament only gave local authorities power to appoint a man, a veterinary surgeon, who was a member of the Royal College of Veterinary Surgeons, and who was registered; but in the Peterborough district that power had been overridden, and a man whom the College had refused to register was acting as veterinary inspector. He had not reported the circumstance to the Royal College of Veterinary Surgeons.

The CHAIRMAN recommended him to do so.

Mr. DICKINSON believed that the local authority had power to appoint whom they pleased, and the Privy Council could not interfere with them. They could appoint a policeman if they liked.

The CHAIRMAN said they could appoint any person to act as veterinary inspector during the Cattle Plague, or they could appoint any registered practitioner.

Mr. DICKINSON observed that a policeman was appointed inspector in the Boston district, and he could perfectly understand what it was Mr. Mackinder was referring to. He had mentioned it to one of the Privy Council veterinary staff when he was in Boston some time ago, and he said that whatever the local authority did, the Privy Council could not interfere with at all. It did not matter to the Privy Council if they appointed a policeman; they got the retaining fee, and the veterinary surgeons had to get what they could. They were entirely at the mercy of a policeman, and he thought it a great shame that they should be. He had not been called in to one-fifth of the cases in his district.

The CHAIRMAN said that at Grantham all the cases of Foot-and-mouth Disease were left in the hands of a policeman to report when they were convalescent.

Mr. DICKINSON said it was the same at Boston, and the policeman declared places infected and free just as he liked. And that was not all: he allowed their accounts—he examined them and initialed them before the local authority paid them.

Mr. RUNCEMAN said that the profession had it in their own hands—they could strike work. Unfortunately there was too much ill-will afloat, or they could make the Privy Council, or any bench of magistrates in England, come to terms.

The CHAIRMAN remarked that, supposing they were to strike, and were to

send in a petition to the magistrates of the division asking them to reconsider the appointment, they would tell them that there were other applicants for the office.

Mr. RUNCEMAN observed that that was what he meant when he said that there was too much ill-will afloat. It was of no interest to him, but if he were the profession he should strike *en masse*. It was no use blaming the magistrates or any one else: they had the profession to blame, for if one would not do the work another would.

The subject then dropped.

On the proposition of Mr. HOOLE, seconded by Mr. WHITWORTH, Mr. Goforth Wyre, of Donington, was unanimously elected a member of the Society; and on the proposition of Mr. CARLESS, seconded by Mr. DICKINSON, Mr. H. Hall, of Burgh-le-Marsh, was elected a member.

G. Fleming, Esq., Prof. Walley, Prof. Robertson, and T. Greaves, Esq., were elected Hon. Associates of the Society.

The CHAIRMAN next called upon Mr. Whitworth to read a paper entitled, "What Part do Minute Organisms Play in Disease?"

Mr. WHITWORTH, in reading the paper, said: Mr. President and Gentlemen,—I purpose offering for your consideration to-day a few remarks on this all-important and engaging subject. It was my intention to have treated the matter more fully, but circumstances would not permit, yet I trust I shall offer sufficient food to bring about an earnest debate. The pathogenesis of disease is a subject which doubtless occupies many of your thoughtful moments, being, as it is in numerous instances, involved in labyrinthian obscurity. Scientists have from time to time speculated in various theories. The one most in favour at the present time is, as you know, the germ theory; the experiments which have been made by its specialists, demonstrating the correctness of their views, are most beautiful and praiseworthy. Yet when we consider some of them in detail they are found wanting. Perhaps I shall do well by selecting bacillus anthracis as a fair example. This life-form is said to have the property of producing the disease we know by the name of Splenic Fever, and without doubt, when these organisms are removed from an animal which is the subject of this malady, and introduced into the system of a healthy one, the chances of its not becoming affected with the identical disease are indeed very remote. This being so, are we to take it for granted that the bacilli are the sole factors in the production of the malady? What has the renowned Pasteur and others shown? Why, that after the process of taming, the bacilli become inert in the way of disease producers. Yes, but to my mind they have shown us more, which is the pith of matter I am privileged to-day in bringing before you. What a strange anomaly, that an organism said to be possessed of such specific properties should be rendered *hors de combat* by being put on such good diet as chicken bouilli! The microscope reveals to us the fact that the bacilli have not undergone the slightest physical alteration during the process of attenuation. I think that if you follow me a little further we shall be able to see how it is this change in property is brought about. I look upon these organisms, from the lowest to the highest, simply as nature's scavengers, acting in accordance with the law of prey. The medium in which we exist is teeming with them, waiting as they are for their nidus. They most certainly have selective power, for that can be easily demonstrated by preparing organic solutions of different compositions; and after exposure to the atmosphere for a certain length of time, it will be found that not one organism alone exists in all the solutions. This being so, need we be amazed at finding different organisms in different diseases, consuming the metamorphosised tissues and fluids of the body, and the specific virus of the disease for which it has affinity? If a healthy animal be inoculated with some of these organisms, it is

almost certain that the same disease will result. But how is this brought about? Not, in my opinion, by any specific properties of the bacillus, but by simple excretion of the virus of the disease with which it has been in contact. Does not the process of taming support this view? After a series of cultivations the once fatal bacillus is rendered inert. Yes, because it has eliminated the hurtful matter that was resident within it. If this view be correct, you will ask, how do you account for the origin of communicable disease? Most maladies, as you know, require a combination of agencies to induce them, but the class of disease of which we are treating require but the one unchangeable and specific means, namely, contagion. The true nature of the principle yet remains a matter of speculation. If I may be so bold as to offer an opinion, I would say it is a volatile—sometimes fixed—poison, produced by chemical processes, with or without organic influences, and this not always completed outside the body, but waiting in the atmosphere or elsewhere for blood in a favourable condition for the completion of its direful mission. It is now, in my opinion, that the so-called germs of disease commence their attack, but, instead of producing, they are removing the products of disease, and the *materies morbi* which primarily caused it. As to the varied degree of potency and mode of manifestation, this is no more a paradox than the difference in the operation of snake poison, woorara, cyanogen, etc. This is the vast problem which science has yet to strive at, but, alas! most probably she will have to rest content with that which has been given her, and reflect upon the wonders wrought by the Omnipotent One.

An interesting discussion followed. On the proposition of Mr. CARLESS, seconded by Mr. HOOLE, a vote of thanks was accorded Mr. Whitworth for his paper.

On the proposition of Mr. CARLESS, seconded by Mr. RUNCEMAN, it was resolved that the next meeting be held at Peterborough.

Mr. MACKINDER promised a paper on "Anthrax."

The election of officers will take place at the next meeting.

THE BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

A PRELIMINARY meeting of the members of the veterinary profession located in the Border Counties was held at Carlisle, in the Bush Hotel, on the 1st ult., at which the following gentlemen were present, viz.:—Messrs. Joseph Carlisle, John Bell, James Bell, Benjamin Hoadley, Jacob Dawson, Carlisle; Henry Pears, Joseph Robson, Penrith; John Tallentire, Skelton; Henry Pears, Langholm; James Chalmers, Longtown; Henry Thompson, Aspatria; John Little, Abbey Town; and Joseph Donald, Wigton.

On the motion of Mr. THOMPSON, seconded by Mr. PEARS, Penrith, it was unanimously agreed that Mr. Joseph Carlisle take the chair.

The CHAIRMAN then called upon Mr. Thompson, who read letters of apology from the following gentlemen, regretting their inability to attend:—I. Tait, Annan; A. Sisson, Gosforth; W. Faulder, Cockermouth; John Soulsby, Workington; Andrew Pender, Lockerbie; R. B. Patterson, Dumfries; John M. Watson, Ireby; Joseph Little, Alston; W. Summers, Alledale; and John F. Thompson, Aspatria. Many of these gentlemen expressed themselves very decidedly in favour of establishing a Society, and promised to become members.

After the letters of apology were read, the Chairman invited an expression of opinion as to the propriety of establishing a Society. Several of the company spoke of the benefits to be derived from such societies—by bringing brother practitioners together—by promoting a good and friendly feeling among the members—by interchanging ideas on matters of every-day practice, and so forth. The meeting seemed at one, as to the desirability

of an Association, and on the proposition of Mr. JOHN BELL, seconded by Mr. PEARS, and supported by Mr. THOMPSON, it was unanimously resolved that this meeting form itself into a Veterinary Society, and that it be known as the Border Counties Veterinary Medical Society.

It was then proposed by Mr. THOMPSON, seconded by Mr. PEARS, Langholm, and carried unanimously, that Mr. Joseph Carlisle be elected President for the year. It was then proposed by Mr. TALLENTIRE, and seconded by Mr. HOADLEY, and carried unanimously, that the following gentlemen be elected Vice-Presidents : Jacob Dawson, Carlisle ; John Bell, Carlisle ; James C. Soulsby, Whitehaven ; and Joseph Robson, Penrith. Mr. HOADLEY proposed, and Mr. DAWSON seconded, that Mr. Thompson, Aspatria, be elected Treasurer ; carried unanimously. Mr. PEARS, Langholm, proposed, and Mr. JAMES BELL seconded, that Joseph Donald, Wigton, be elected Secretary ; carried.

After some conversation on the advisability of admitting agriculturists as members, it was finally decided, on the motion of Mr. TALLENTIRE, seconded by Mr. HOADLEY, to confine the membership to qualified veterinary surgeons.

The Rules of a few veterinary societies were submitted for approval, and after several suggested alterations it was finally decided, on the motion of Mr. THOMPSON, seconded by Mr. DAWSON, to leave the drawing up of a Code of Rules in the hands of the office-bearers.

It was next proposed by Mr. THOMPSON, seconded by Mr. DAWSON, that each member pay an entrance fee of 10s. 6d., and an annual subscription of 5s. Subscriptions to fall due on the first of January.

It was very generally thought that the first meeting should be held in January, 1884, and that the members should dine together after the meeting. The date of the first meeting and the subjects to be brought forward were left in the hands of the office-bearers to arrange for.

It was further resolved that the minutes of this meeting be printed, and that a copy thereof be sent to all members of the profession located within the Border Counties, with an invitation that they become members of this society.

All gentlemen making application to the Secretary, by letter, on or before the next meeting of the Society, will be admitted as members without any formal election by vote or ballot, and will be enrolled as such on conforming with the rules of the Society.

A very cordial vote of thanks to the Chairman concluded the meeting.

After the conclusion of the above meeting, the members held a conversational meeting, at which several interesting topics were introduced relative to veterinary science and practice, which were freely commented on and profitably discussed by the company.

The meeting dispersed about 7 p.m., highly pleased with their prospects of success.

J. DONALD, *Secretary.*

THE NEW VETERINARY COLLEGE, EDINBURGH.

(Continued from page 458, vol. xvii.)

The noble CHAIRMAN said he would be failing in his duty, not only to Professor Williams and those present, but also to the Highland Society, a deputation from which he headed that day, if he did not express to Professor Williams his hearty congratulations on the success of the present undertaking so far as it had gone—(applause)—and he could assure him of their hearty support—(applause). Professor Williams had referred to the interest the Highland Society took in veterinary science, and it was due to that society to say that they appreciated what he said, and that the thanks of Scotland

were due to the society for what it had done—(applause). The Highland Society had taken the greatest interest in the veterinary profession, and in fact for a long time it was the only body in Scotland which gave certificates to members of the veterinary profession. He was sorry to say that owing to recent legislation it was no longer in their power to give these certificates. It was not for him, in that place least of all, where every one took an interest in veterinary science, to enlarge on the advantages the sciences must confer on the community, but he thought they must all feel the enormous benefits which would arise to the country if it continued to be conducted on a more scientific basis. Referring to Professor Williams' remarks as to the spontaneous generation of disease, his Lordship said that his own conviction was that there was no such thing as spontaneous generation of disease, but that the different influences which occur to the bodies, whether of man or beast, put them in a condition to be attacked by those diseases—(applause). Many would agree that there might be a difficulty in believing in the spontaneous generation of disease. Let them look, for instance, at the discoveries in connection with the sheep plague in France. Many thought for a long time that it was spontaneously generated, because sheep were put into apparently healthy pasturages and were attacked by the disease ; but it was afterwards found that the carcasses of diseased sheep had been buried deep in the ground, and the action of earth-worms in bringing up diseased portions to the surface had caused the disease—(applause). He believed, except in disease that might be due to accidents, that every form of disease to which animals were subject was due to distinct forms of organism in the animals themselves—(applause). He thought there was a tremendous scientific interest open to all who embraced the profession for which this college had been built. There could be nothing more interesting than the hard good work which Professor Williams had pointed out to them as the way to success. Nothing could be a greater inducement for them to persevere than the knowledge that they were conferring benefit not only on the brute creation, but on the human race—(applause). His Lordship concluded by intimating apologies from Lord Balfour of Burleigh, The Lord President of the Court of Session, Sir William Baillie, Bart. ; Sir Henry Seton Steuart, Bart. ; Sir Alexander Kinloch, Bart. ; Professor Wilson, Mr. Walker of Bowland, Mr. Irving of Drum, Mr. Russell of Dundas Castle, etc.

On the motion of Mr. CONNOCHIE, V.S., Selkirk, a vote of thanks was given to the chairman, and the proceedings terminated.

A description of the new College has already appeared in our columns, but it may be mentioned that Mr. William B. Lyons, the contractor for the plaster and Portland cement work, has, in the case of the college, introduced into Scotland for the first time the lithite concrete, which is made of gravel taken from the Threlkeld mines of Cumberland and the very best quality of Portland cement. This lithite stone is obtained from a quartz mine, and being combined with mica schist and hornblende to the extent of 15 per cent., it has a high degree of hardness, and is calculated to resist great weight. The former has the hardness of seven, while the latter is five to six, being thus equal in hardness to any granite. The close compact nature of this gravel-stone supersedes granite by weight eight pounds per cubic foot. All the loose boxes, stables, byres, bath-room, and extensive quadrangle have been laid with this lithite cement, which amounts to 2000 superficial square yards. This gravel has excellent properties for all concrete purposes, its fracture being angular, *i.e.*, the sharpness is not easily broken away when set within cement.

The Luncheon.

At two o'clock a luncheon, attended by 180 ladies and gentlemen, was held in the microscopic and chemical departments of the College. The Marquis of Lothian presided, and Mr. D. Salmond, Gawthorpe Hall, Bingley, Yorkshire, officiated as croupier. Grace was said by the Bishop of Edinburgh. In proposing the health of Professor Williams and success to the institution, the noble CHAIRMAN said he admired the energy and skill which had raised Professor Williams to his present high professional position. By the establishment of this College he felt sure that veterinary science in Scotland would be advanced more than ever. (Applause.)

Professor WILLIAMS, in reply, said, although he stood there at the head of a rival institution to the Dick Veterinary College, no man in the profession had a more sincere respect than himself for the memory of Professor Dick. (Applause.) He was a man worthy of all honour. He was the founder of the veterinary profession in Scotland, and the father, professionally, of the best men in Scotland, while his students were to be found at the head of the foremost colleges of the world. (Applause.) He revered Professor Dick's memory, and he intended to show his respect for the man by witnessing the unveiling of his statue that afternoon. (Applause.) The sculptor did not know the late Professor, and he (Principal Williams) was glad to have been able to assist Mr. Rhind in producing in stone the admirable likeness which would be disclosed to their view that day. (Applause.)

The proceedings then terminated.

Complimentary Dinner to Professor Williams.

In the evening Professor Williams was entertained to dinner in the Waterloo Hotel by his professional brethren and a number of friends. Between sixty and seventy gentlemen were present. Mr. John Borthwick, V.S., Kirkliston, occupied the chair, and was supported by Professor Williams, Mr. Paterson, V.S., Dumfries; Mr. Scott, factor for Mr. Hope Johnstone of Annandale; Mr. Baillie, Edinburgh; Mr. Walker, Bradford, etc. The croupiers were Mr. R. Rutherford, Secretary of the Scottish Metropolitan Veterinary Medical Society, and Mr. Cunningham, V.S., Slateford. Blessing was asked by the Rev. Mr. Overend, Edinburgh, and after the usual loyal and patriotic toasts—the latter being responded to by Mr. Phillips of the 3rd Dragoon Guards, Mr. Robinson, Greenock, and Mr. Ivison Macadam—the CHAIRMAN, in proposing “The health of Professor Williams and success to the New Veterinary College,” said—Professor Williams came to this city some seventeen years ago as successor to the late Professor Dick, who was the founder of the first veterinary college in Scotland. All honour to his memory; he was a great man in the veterinary profession, and he has left his mark. We have met here this day to celebrate the opening of another Veterinary College, and I think you will agree with me when I say that it is second to no other in the kingdom. (Applause.) It has been founded, as the first was, by one man, without State or any other endowment, and it is under the sole control of its founder. (Applause.) Professor Williams has had difficulties to contend with, but he has borne up and overcome them all, and they have been crowned with the success he so thoroughly deserves. (Applause.) This is shown to us by the commodious and elegant building he has erected, the large number of students enrolled (164), and the friends and members of the profession assembled here this day to do him honour. I will not in his presence give expression to all I would like to say regarding him, but permit me to say this, that I, along with my professional brethren here, and I believe throughout Scotland and England, have always had the greatest pleasure in meeting him, especially in consultation. His opinion and advice, which are so kindly and freely given, we can rely

on, and no one has done more to raise the status of our profession. (Applause.) May he be long spared to go out and in amongst us and enjoy the fruits of his labour. (Applause.) I ask you to drink to Professor Williams, and success to the New Veterinary College.

The toast was drunk with all the honours.

Principal WILLIAMS returned his sincere thanks for the honour done him by his professional brethren from all parts of Scotland, and from many places in England, who had assembled to do honour to one of themselves, a veterinary surgeon and nothing more, for he felt proud of his profession (applause). It was a proof that they would always honour the profession to which he belonged, and he thought that marked a great step in advance (applause). The gathering that night, of men from great distances, impressed him with the conviction that if a man did his work honestly and conscientiously his brethren in the profession would respect and esteem him (applause). Throughout the whole of his career his endeavour had been to elevate his brethren in the profession. He had never yet taken advantage of a mistake made by a professional brother—(applause)—and the result was the gathering that night. He saw around him gentlemen who were examiners when he was a student, and he saw one gentleman (Mr. Hallen) who preceded him in Professor Dick's chair, and to whom in a great measure his success was due (applause). He was also proud of having won Mr. Hallen's prize for practical pathology, which, during his many troubles, had greatly consoled him, and he was pleased to see the donor present that evening (applause). It was also a great pleasure to him to see present so many gentlemen who had studied under him, and who were being successful in the world—(applause). He thanked them, his "boys," as he liked to call them again, for what they had done that day, and which he would never forget—(applause). He would mention, in conclusion, that the profession had a true friend in the Highland and Agricultural Society of Scotland, whose friendship he had experienced for seventeen years. Some thought the society meddled too much with their affairs, but he would remind them that in 1823 Professor Dick lectured in Niddrie Street, Edinburgh, to a solitary student, when the Highland Society took him up and encouraged and supported him, the result being that they had now three colleges in Scotland, all in a flourishing condition. He (Professor Williams) had been told that he was a plucky individual in erecting his new college, but what was that compared to the courage of a man who could lecture for three years to a single student? He again thanked them most heartily for their kindness to him that day.

Mr. FINLAY DUN gave "Continued Prosperity to the Veterinary Schools," and in doing so dwelt at length on the great improvements that had taken place in the schools during the last thirty years, and stated his belief that the British colleges now possessed preceptors who would turn out thoroughly trained young men, second to none which the world had produced—(applause). He coupled the toast with the name of Professor Lewis, of the New Veterinary College, who suitably replied.

Mr. CUNNINGHAM, Slateford, proposed "The Royal College of Veterinary Surgeons," and passed some strictures on the management of that body. Of the Council and office-bearers, one was from Ireland, two from Scotland, and twenty-eight from England; while the great bulk of the examiners were also selected from the other side of the Tweed. He paid a warm eulogium to Professor Williams' treatment of his fellow-students, and concluded by coupling the toast with the name of Mr. Cartwright, Wolverhampton.

Mr. CARTWRIGHT, in reply, assured them that the Royal College had the interests of the profession at heart. He hoped next year to see more Scotch representatives returned to the Council Board, and they would have his hearty support—(applause.)

Mr. F. H. HALLEN, of the Indian Army Veterinary Department, proposed "The Highland and Agricultural Society of Scotland," through whose co-operation with the veterinary profession the losses through disease in flocks and herds were very much lessened. When in charge of the Clyde Street College he had received the greatest support from the Highland Society, and having now returned from abroad he was gratified to find that that society was still assisting all three veterinary colleges in Scotland, and was thus more than ever furthering and developing veterinary science—(applause). The certificates of the Highland Society were always received by the public as a guarantee of the holder's qualifications, and it was owing to that certificate that he had travelled so far—(applause).

Mr. F. N. MENZIES, secretary of the Highland and Agricultural Society (whose name was coupled with the toast), said it had been his privilege to be associated with Professor Williams for many years, and during all that time they had never differed in opinion, for he always felt that in Professor Williams he had a man on whom he could thoroughly rely—(applause).

Mr. SPREULLE, Dundee, proposed "The Board of Examiners," which was acknowledged by Mr. A. ROBINSON, Greenock; Professor VAUGHAN gave "The Sister Profession," to which Dr. HUNTER, Edinburgh, replied; Mr. F. N. MENZIES proposed "The Health of Mrs. Williams and Family," which was responded to by Mr. W. OWEN WILLIAMS; Mr. CONNOCHIE, Selkirk, proposed the health of the Chairman; and the Croupiers having also been duly toasted, a pleasant and enthusiastic meeting was brought to a close about ten o'clock.

THE NORTH OF IRELAND VETERINARY MEDICAL SOCIETY.

(Continued from page 432, vol. xvii.)

In *Pleurisy*, general venesection is only warranted in the earliest stages; it can be of no avail when inflammatory processes are thoroughly established. In cattle I have seen it when associated with stimulants and external irritants give almost instantaneous relief, and both in these animals and in the horse where the pleuritic inflammation has extended day after day in spite of all treatment I have frequently seen the introduction of one or more setons or rowels over the region of the inflamed part arrest the disease as if by magic, and I would have you bear in mind that the usual action of such remedies, viz., suppuration, could have had no influence here—the relief being too rapid—it can only be attributed to local blood-letting and the revulsion of nervous energy.

In *Heart affections* blood-letting must be very carefully had recourse to. In Pericarditis I have never seen any good result from it, except in very acute sthenic cases accompanied by a hard wiry pulse or great vascular engorgement and dyspnœa. Indeed, it may be said that venesection in cardiac affections generally is only warranted when these conditions exist, as in very many forms of Heart-disease syncope immediately follows the abstraction of large or even moderate quantities of blood.

In *affections of the Alimentary Organs* venesection is of great use to us. In Gastric Indigestion of the horse, associated with Cerebral Congestion, and in Gastric Tympany (when very frequently the administration of medicines is dangerous), more especially when there is marked dyspnœa and great venous turgescence, it should never be neglected. Ordinarily, carbolic acid, combined or otherwise with turpentine, will afford relief, but in desperate cases the regurgitation precludes the possibility of administering medicines; here venesection and the application of irritants to the epigastric region is all we have to rely upon, and they do not very often fail us.

Paracentesis is our great sheet-anchor in Enteric Tympany ; in the horse unfortunately, we cannot utilize it in Gastric Tympany.

In acute Indigestion in the Ox from the ingestion of large quantities of succulent grasses, grass staggers, bleeding is only demanded when the pulmonary or cerebral circulation is interfered with, a full dose of salt with whisky usually effecting our object ; but in Omasitis as the result of impaction I have often thought the operation favoured the action of medicines and warded off or arrested inflammation.

In Phlegmonous Enteritis in the horse free venesection is of great value, especially if chloral hydrate and opium are administered simultaneously, and the same may be said of *Acute Sthenic Peritonitis* in the early stages.

In Constipation of the Bowels venesection may favour the absorption of medicines but it is not usually indicated unless inflammation sets in ; the administration of belladonna when the constipation is due to spasm : strychnine when due to paralysis ; is all that is required, with the exercise of patience. When no inflammation exists a stimulating cathartic should be administered at the outset.

In Spasmodic Colic, where the pain is desperate, when medicines give no relief, or when, indeed, they cannot be administered, bold venesection immediately reduces the spasm.

In Metritis and Nephritis I have not seen any benefit result from venesection, but in *Acute Uræmia* (wrongly called Azoturia) in the horse and in *Parturient Eclampsia* in the cow, it is of great value when judiciously employed. In the former affection it should only be had recourse to when the pulse is very strong and full and when convulsions are threatened ; then, aided by chloroform or the subcutaneous injection of atropine, we may expect, and practically do derive, much benefit from it.

I have observed that the term Azoturia is a misnomer ; it simply indicates that there is an excess of nitrogenous elements in the urine thus perpetuating the vicious system adopted so largely in the nomenclature of diseases of designating a disease according to some prominent symptom. In last month's *Veterinarian* you will find an article on this subject from the pen of Professor Axe ; he, too, condemns the use of the word Azoturia but substitutes an equally meaningless one (pathologically) viz., "Hæmatinuria," and he further endeavours to prove that the disease is really *Albuminuria*. Now, in all the specimens of urine I have examined, as well as in those which I have submitted to Dr. Aitken for examination, no albumen has been discovered ; on the contrary, ureaic and hippuric compounds have been present in abundance ; moreover, the urine has often a distinctly ammoniacal odour. The history of these cases their course the symptoms and the macroscopical conditions all point to one thing, and that is, a *poisoned condition of the blood itself* ; whether the toxic agent is ureaic in character or simply results from imperfect oxidation or accumulation of products of oxidation or of biliary matters, remains to be proved. I am of opinion that the liver is more at fault than the kidneys, seeing that, as a rule, the disease occurs in highly plethoric animals and is associated with icterus, more or less pronounced. Under these conditions eliminatives and stimulants, with stimulating cathartics, are called for, and in addition the bladder should be frequently washed out with an alkaline solution.

While venesection is indicated in *Hepatic affections*, accompanied by great pain and vascular excitement, it is contra-indicated when the pulse is soft and weak when the animal's condition is low and icterus is marked.

Lastly, venesection as a remedial measure has been much extolled in Inflammatory Œdema (Weed). I have put its supposed virtues in this affection to the test very frequently, and I must confess that in my hands

the results following its adoption have not been encouraging. In the early stage I usually administer a bold diffusible stimulant and diuretic, apply with friction a moderately-stimulating and anodyne liniment to the skin of the inside of the thigh, with hot fomentations and bandages; and as soon as possible give exercise, apply cold water, and administer potassic iodide with ammonia carbonate.

Inflammatory Œdema.

I cannot dismiss the subject of *Inflammatory Œdema* without briefly noticing its pathology. As in the case of Acute Uræmia, so in this disease a synonym (Lymphangitis) is usually employed, which is absolutely misleading. To Haycock we are indebted for the application of the term Lymphangitis, but he based his theory solely on the *post-mortem* conditions observable in old-standing cases, viz., the thickened and sometimes occluded state of the lymphatic vessels, and the enlargement and induration of the glands. As well might he have said that the Lymph-adenitis of zymotic Pleuropneumonia, or the Lymphangitis associated with old-standing ulcers of a specific character are the causes, not the results, of the diseases which they accompany.

Inflammatory Œdema, as observed in horses, differs not from allied conditions in other animals, as *e.g.*, the acute Urticaria of man, the horse, and the dog, the blain of cattle or acute intestinal effusion in the horse; and it is the analogue of the swelling of the limbs seen in Effusive Fever (Pink-eye) of the latter animal.

The actual cause in each case is to be sought in the vital fluid which, from mal-nutrition, becomes incapable of nourishing the intimate structures of the delicate coats of the capillary vessels; thus rendering them, in their turn, incapable of withstanding the pressure of an overcharged circulation. That the blood in its altered condition has an injurious influence upon the lymphatic glands and vessels, I do not deny, and that this injury is perpetuated, especially in the case of repeated attacks, is equally certain; but if the disease were primarily and simply Lymph-adenitis and Lymphangitis we would certainly get some of the natural results which follow inflammation of these structures from other causes. Whether the cause of an inflammatory œdema be a ferment, as in Effusive Fever, a superabundance of or an altered condition in the blood plasma or the presence of some deleterious material in the blood itself, is a matter of indifference, the physical results are the same, viz., an altered condition of the walls of the capillary vessels, rapid transudation of lymph, irritation of the connective-tissue elements and disturbance of their nutrition, with desperate attempts on the part of the lymphatic vessels to get rid of the transuded fluid; the altered condition of this fluid giving rise, secondarily, to adenitis and to interstitial cellulitis, the latter resulting ultimately, especially after repeated attacks, in elephantiasis—a condition wrongly attributed by some veterinary authorities to organisation of the effused lymph.

The localisation of the lesion in the limbs or in a particular limb is purely accidental, and is not determined by any fixed law except, indeed, in those cases where some inherent or acquired tissue-weakness exists in one or other of the extremities; that the hind legs should be most largely affected is easily explained by the unfavourable conditions as to circulation, in which they are placed and by the greater strain to which they are subjected during severe exertion, but that one limb is, necessarily, more liable to be attacked than another, is not in accordance with my experience and, given an inherent or pre-existent tissue-defect in these organs, there is no reason why the lesion should not be determined to the lungs or to the intestines as well as to the limbs; in point of fact, intercurrent Colic from enteric effusion (the swelling

simultaneously disappearing from the limb) is often seen. As showing the bearing of these remarks on the subject, the following cases, which recently came under my notice, may be cited. With me Inflammatory Œdema is almost every year a serious item in my daily work when horses are placed upon *new hay* or *rye-grass*, and with this Inflammatory Œdema Colic runs hand in hand.

In one stable this season four cases, in addition to several of Colic, occurred : in No. 1 the lesion commenced in two limbs and rapidly involved *all four*, the swelling being so extreme as to render destruction of the animal (an old horse) necessary ; in No. 2 the lesion was localised primarily in the near fore leg, in a few days laryngeal effusion set in and continued to an alarming degree for three days ; in No. 3 the localisation of the lesion was in the near hind limb and the horse (previously the subject of Immobilitie) died from Tetany ; No. 4 ran the usual course. All these cases were undoubtedly due to an altered condition of the blood as the result of the state of chemical change going on in the hay at the time of its ingestion. Not a few cases of this description are associated with cephalic or saphenal phlebitis.

At the conclusion of Professor Walley's paper, which was listened to with well-merited attention, the discussion was spiritedly begun by Mr. Giffen, followed by Messrs. Dunlop, Kernohan, Bradshaw, Hedley, Johnston, Doris, and Chambers. The Professor in replying to the various points raised in the discussion, entered into minute and lucid explanations of these points.

A vote of thanks moved by Mr. CHAMBERS, and seconded by Mr. DUNLOP, was accorded the essayist, and replied to.

Mr. THOMPSON proposed, and Mr. GIFFEN seconded, that Mr. Reavy, of Newry, be admitted a member of the Society.

A vote of thanks to the Chairman concluded the business of the meeting.

H. R. BRADSHAW, *Hon. Sec.*

GLASGOW VETERINARY COLLEGE.

(Continued from page 463, vol. xvii.)

Attenuation by Heat.

But Pasteur was far from the only worker in this interesting field. When he was on the very threshold of his experiments on Splenic fever, M. Toussaint, of Toulouse, to whom I have before referred, announced that he had discovered that by subjecting the blood of an animal labouring under Splenic Fever to the action of heat, he not only deprived it of its fatal properties, but converted it into a vaccine, which on inoculation protected the animal against the effects of the strongest virus of the disease. On repetition of Toussaint's experiments, it was, however, found that in certain instances inoculation with the virus treated by his method produced the unmodified disease, while in others it was followed by no protective result. This effectually discredited his discovery for awhile. But his old master, Chauveau, had sufficient faith in him carefully to repeat his experiments, and he found that, while his mode of manipulation had been defective, the principle which he had discovered was correct. He showed that, by means of regulated heat systematically applied, the microbe of Splenic Fever could be attenuated much more rapidly and easily than by Pasteur's process, and that the modification produced by exposure to heat, although possibly not so permanent or reliable, was equally efficacious in the protection it afforded against subsequent attacks of the disease. The system propounded by Toussaint, and perfected by Chauveau, is stated to have been applied successfully in other diseases. Its general applicability, however, remains to be tested, but if it holds good generally, the method, as has been pointed out, possesses one important advantage. For in maladies where no mode of artificially culti-

vating a given specific microbe has yet been discovered, as in Cattle Plague, Pleuro-pneumonia, etc., the natural fluids in which the microbe swarms can still be treated by exposure to heat, and the possibility thus readily tested of producing a mild protective vaccine against the disease. But the discoveries of MM. Chauveau and Toussaint do not exhaust the work of veterinarians in this important branch of medical science.

The Maladie de Chabert.

There is another disease of cattle, invariably fatal, which was long confounded with Splenic Fever, but which was identified and described as a separate disease by M. Chabert, and is known by his name as the *Maladie de Chabert*. In that disease the microbe makes its way into the solid tissues, and there finds a congenial breeding-place, whence it extends and multiplies until its victim perishes. Well, three other pupils of the Lyons Veterinary School, MM. Arloing, Cornevin, and Thomas, discovered that in this disease, if the microbe, instead of being introduced into the solid tissues, where inoculation with even the smallest amount proves fatal—if it be thrown even in comparatively large quantities direct into the torrent of the blood, it not only proves harmless to the animal experimented on, but operates like a vaccine in protecting it against the disease. They discovered, too, that virus introduced into the air-passages produces the same results. I am not aware that any practical application has been made of the latter discovery, but the former—the intravenous injection of the microbe—has been reduced to a system: and in different parts of France and Algeria, where the disease is prevalent, many hundreds of animals have already been protected against it in this way. This proceeding has now stood the test of several years of trial, and only the other day the French Academy of Sciences, after a careful investigation at the hands of a distinguished committee, bore witness to the importance of the discovery by awarding its authors a prize of 5,000 francs. (Applause.) Hitherto, I have spoken only of work in the field of veterinary medicine carried to a definite conclusion, and, within the range of completed work, I doubt whether any other branch of medical science can show so much to boast of within anything like an equal period. (Applause.)

Is Consumption Infectious?

Before sitting down, however, I should like briefly to refer to two sets of investigations which illustrate more obviously than anything of which I have yet spoken the intimate connection between human and veterinary medicine. (Applause.) I allude to the recent researches concerning the intimate nature of tubercular or consumptive diseases, and of Hydrophobia—maladies common alike to man and the lower animals. A considerable number of years ago M. Villemin adduced a strong array of facts in connection with Tuberculosis in man, which went far to prove that it was a diseased condition dependent upon the invasion of the system by another microbe, and that the disease might be communicated from man to man and to certain of the lower animals. In 1881 M. Toussaint published several papers on the disease as it occurs in cattle. In these he demonstrated the readiness with which it could be transmitted from animal to animal by inoculation; showed the facility with which it might thus be unintentionally propagated by means of common feeding-troughs; proved that the flesh, milk, and juices of diseased animals were alike infectious; demonstrated that the infecting organism of the disease could withstand heat sufficient to moderately cook the flesh in which it was contained; explained certain peculiarities which Tuberculosis presented in different species of animals; and claimed to have succeeded in separating and cultivating the specific microbe of the disease.

Unfortunately, at this period M. Toussaint's health gave way, and the question rested where he left it till March, 1882, when Dr. Koch published his demonstration of the fact that Tubercular Phthisis in man was the work of a microbe which he had succeeded in cultivating according to a new method devised by himself. Since then the question whether consumption in man is or is not a disease spread by infection has become one of urgent practical importance. Numerous experiments with a view to its solution have been made, with more or less contradictory results. Experience has taught us that other classes of parasites capable of existing on several genera of animals are often themselves developed into different though closely allied varieties which normally infest only one or two species of animal, and which only manifest their full vigour and vitality when settled on a particular description of host which they normally affect. Toussaint had proved the extreme facility with which bovine Tuberculosis could be propagated among bovine animals, and the latest contribution to our knowledge on the subject is that by MM. Dieulafoy and Krishaber on the disease as it occurs in the animal most closely allied to man—namely, the monkey. Monkeys are very prone to tubercular disease—so much so that death by consumption is the most common end of those exhibited in our menageries. There was, therefore, no difficulty in procuring the exact tubercle-microbe natural to the species, and with it fourteen monkeys were inoculated, care being taken beforehand that the animals selected were in perfect health. In the same cage with them were placed twenty-four other healthy monkeys. Within seven months after the operation twelve of the fourteen inoculated had died of tubercular disease. Of the twenty-four healthy animals placed alongside them five died, giving a mortality of eighty-six per cent. in the one case and twenty-one per cent. in the other. After this the cage was cleansed and disinfected, and twenty-seven monkeys had, at the date of the report, inhabited it for fifteen months without the appearance of a single case of the disease. (Applause.)

Latest Discoveries about Hydrophobia.

Hydrophobia is one of the most terrible diseases to which mankind is liable, and until within the last few months it has been one of the most mysterious. Of a dozen persons bitten by a rabid dog or cat or wolf, not more than one or two might fall victims to it. Months, or even years, might elapse before it made its appearance, and the symptoms varied so much that some authorities refused to admit that it was anything more than the extreme result of a terrified and excited imagination. It was universally believed to depend upon a poisonous condition of the saliva, but additional obscurity was cast upon its nature by the fact that the saliva of human beings labouring under it repeatedly failed on inoculation to reproduce the disease in dogs. It was generally classified along with tetanus as a nervous disease, and considered to be uniformly fatal. In 1878 and 1879 M. Paul Bert, a well-known French *savant*, who subsequently occupied the post of Minister of Education in Gambetta's Government, made an investigation regarding the nature of Hydrophobia which cast some light upon the subject, but for some reason or other attracted but little attention. He transferred by transfusion the entire blood of a dog in a state of furious Rabies into a healthy animal, and *vice versâ*, and found that the healthy animal, kept under observation for a year, manifested no symptoms of the disease. As to the rabid animal, its life was apparently prolonged a couple of days by the operation. Having thus satisfied himself that the disease was not in the blood, Bert next endeavoured to ascertain in which constituent of the fluids that bathe the mouth in the disease the virus had its seat. Straining those fluids through a plaster filter, he found that the liquid which passed through was innocuous. The solids which remained

behind communicated the disease. He inoculated animals with pure saliva taken from the different salivary glands, but found that it never produced Hydrophobia. On the other hand, mucus taken from the bronchial tubes readily gave rise to it. It was therefore the mixture of this bronchial mucus in the saliva that constituted the medium of infection, and hence the explanation of the unequal action of the bites of rabid dogs. Bert also found that in a number of cases inoculation produced, not Hydrophobia, but extensive and fatal suppurations. At this stage, a couple of years later, M. Pasteur took up the problem. Suspecting the disease to be of microbic origin, he endeavoured to cultivate the microbe from the saliva of a child that had died of Hydrophobia. He succeeded in multiplying a microbe, but on inoculating it on rabbits, found that it gave rise to an entirely different and hitherto unknown disease. Further investigation showed that this was caused by a microbe, previously unsuspected, that exists even in healthy saliva. Pursuing his researches, Pasteur at first found himself baffled by the uncertainty of the disease and its irregular period of incubation; but suspecting that the habitat of the microbe, which he believed to be its cause, was the nervous centres, he hit upon the expedient of inoculating the virus directly on the brain surface by the aid of the trephine. In the saliva the microbe of Hydrophobia is mixed up with other organisms, so that on inoculation death may result in three different ways—from extensive suppuration, from the specific action of the salivary microbe whose existence Pasteur had disclosed, and from Hydrophobia. But Pasteur discovered that the microbe of Hydrophobia might always be found in a state of purity in the rachidian bulb of animals affected with the disease. Taken from this source and inoculated upon the brain surface of healthy animals, it multiplied itself rapidly, producing the characteristic symptoms of the malady in from six to ten days. Injected into the blood it frequently gave rise to symptoms entirely different from those recognised in connection with Hydrophobia, consisting of paralyses and intense itchings. It was proved that furious Hydrophobia and dumb Rabies constitute but one disease, the delirious hydrophobic symptoms occurring when the microbe multiplies itself in the brain, and the purely nervous form when it attacks the spinal cord; that the two forms of the disease are interchangeable, being capable of being produced one from the virus of the other, and that the dumb or spinal form of the disease may give rise to symptoms which render it extremely probable that it often escapes identification. In the course of his experiments, Pasteur came across one dog, which, on inoculation, took the disease and recovered from it, and which remained proof against all subsequent inoculations with it. Three dogs, besides this one, he found to be proof against Hydrophobia, and he suggestively inquires whether these may not, before being submitted to his experiments, have undergone the disease in the ordinary way and recovered. Finally, Pasteur found that the microbe of Hydrophobia possesses a strong vitality, and that the brain of a cow which had died of the disease, kept for three weeks after the death of the animal at a temperature of fifty-three degrees, on inoculation repeatedly produced Hydrophobia. (Applause.) Pasteur's efforts are at present devoted towards discovering a mode of attenuating the virus, in the hope that by its means he may be able to render dogs proof against the disease, and thus narrow to the utmost the channels through which Hydrophobia may find its way to man. (Applause.)

Conclusion.

Gentlemen, I have, I fear, detained you too long. In conclusion, I have only to say that you are about to enter upon a profession in which it will depend very much on yourselves individually what status you shall enjoy. It is a profession in which you may rise very high or sink very low. The

day is past when a man required only to be able to fire a horse, bleed a cow, and use a drenching-horn to dub himself a veterinary surgeon. But if you content yourself with a servile adhesion to routine—with pouring drugs of which you know little into elaborately-organised beings of which you know less—you will advance yourselves but a small degree beyond the unenviable status of the horse-doctor of bygone days. But you have brilliant examples before you ; you have men of education and intelligence to teach you, and you are entering your profession at a time when, in a degree far in excess of any former period, responsibility and power and emoluments are offered by the country to the accomplished veterinary surgeon. If, availing yourselves of your opportunities, you devote yourselves heart and soul to the career before you, not regarding it as a mere sordid means of money-grubbing, but as a mind-expanding and all-important branch of the noble art of the physician, I have no hesitation in saying that in your study and labour you will derive a pleasure, and in your knowledge a sense of intellectual superiority over the unthinking mass around you, which of themselves will constitute no mean reward, which will amply repay you for any lack of that superfluous wealth which so many men set up as their earthly idol, which will entitle you to mix on equal terms with the foremost intellects of your generation, and which will leave you no reason to regret the chance that has directed you to the study of veterinary medicine. (Loud and prolonged applause.)

Sheriff CLARK said : I have been requested to move a vote of thanks to Dr. Cameron, to whom we are so much indebted for his lecture to-day. It has been my privilege, through the kindness of your principal, to be present at almost all the lectures of an introductory kind that have been made in this institution for many years, and I must say that while during that time I have heard many admirable lectures, I do not remember ever having listened to one that was more intelligent—even to a layman such as I am—that was more suggestive and more instructive—that more deserved to receive the highest attention from all present. (Applause.) The learned lecturer has well brought out those facts which show us that veterinary science, that veterinary medicine and human medicine, are only the same things viewed from different points of view, and how impossible it is that either the one or the other can worthily fulfil its purposes and fill its sphere of action if the one is separated from the other. (Applause.) How admirably has he brought out and put into small compass what is now known as regards the germ theory of disease ! How clearly has he explained it so that even I, though an unscientific man, can fully appreciate the immense advantages that will follow when the theory of vaccination is wrought out to its full extent. (Applause.) In the remarks with which he closed his lecture he showed great knowledge of mankind, and if you, the younger members present, will only lay your hearts to them, I have no doubt that you will rejoice in some future time that you were present at this lecture. (Applause.) I am sure I need say no more, but that you will accord a very cordial and enthusiastic vote of thanks to Dr. Cameron, who, as member for this city, has done everything in his power to further every good work among us. (Loud cheers.)

Dr. CAMERON : Gentlemen, I must say you have received my lecture with an attention which was the best vote of thanks that I could have desired. The heartiness with which you endorsed the very kind and flattering words which Sheriff Clark has said regarding me is superfluous, and far exceeds anything to which I have any claim. But I was once a student myself, and I know that very few students knock themselves up with too hard work. (Laughter and applause.) I don't expect that you should do so, but I think

that a little work and a little hard application never yet did a student any harm. (Applause.) As Sheriff Clark has said, I have taken a great interest in veterinary medicine and in the veterinary profession. I have the privilege almost every year of meeting the most distinguished members of that profession in London, and I can tell you this, that the number of Scotchmen among them and of men who have been educated in Scotland is something extraordinary. (Applause.) So remarkable is it that at a great veterinary dinner a hint was given me on no account to allude to the fact, because it would be certain to excite a good deal of ill-feeling and envy among the native Englishmen. (Laughter and applause.) Nothing can be more certain than this, that in no veterinary school in Scotland have you a better opportunity of learning your profession than in this school in Glasgow. I did not like to inquire whether an abnormally large proportion of the Scotch veterinary professors in England were Glasgow men, but I hope that in the future there will be as good cause for remark among the Scotchmen who succeed south of the Tweed as to the inordinate number of Glasgow men of eminence among their number, as there is now as regards the abnormally large number of successful Scottish veterinary surgeons. (Loud applause.)

Dr. KNOX then presented the prizes gained by students during the summer session, and afterwards said: Before I sit down, I have one other duty to perform which is not so pleasant. I must say good-bye to the Veterinary College. It is rather a serious matter after having spent about ten years—if I remember aright—as lecturer on physiology in this College to make such a complete break; but my other professional duties will no longer allow me to continue teacher on physiology here. I can look back with very great pleasure indeed to the days which I have spent in this classroom; and I think that those gentlemen who did me the kindness to listen to my lectures will bear witness with me that we did sometimes good work. (Loud applause.) I have always felt that the veterinary profession should have a very high ideal before it, and I quite sympathise with and homologate the statements which have been made by Dr. Cameron to-day. I think the veterinary surgeon should be even a more scientific man than his medical brother. (Applause.) We medical men have great assistance in the diagnosis of disease in our patients from the fact that our patients can speak to us. They can tell us where pain resides; they can tell us a great deal about the state of the internal organs. But your patients are dumb. You have to find out what is wrong with them entirely by your own scientific knowledge. By your knowledge of animal physiology only will you be able to tell what is wrong, what is diseased, what is pathological. (Applause.) Dr. Knox then introduced to the students his successor, Dr. Wm. Limont, lecturer on physiology in the Western Medical School, a gentleman thoroughly well fitted to discharge the duties of lecturer in the Veterinary College, and concluded by expressing the hope that they would follow Dr. Limont's instructions, and keep constantly before their minds the same high ideal of their profession which it had ever been his endeavour to hold before them. (Loud applause.)

On the motion of Rev. D. WATSON, the students warmly accorded to Dr. Knox an expression of their gratitude for his services in the past and of their wish for his future prosperity.

Dr. CAMERON then said: I have to move a vote of thanks to the learned principal for having so worthily occupied the chair on this occasion. (Applause.) To those of you who have been here during the former sessions it would be impertinence on my part to utter any commendations of his many good qualities. As for those who are now joining the College for the first time, I have no doubt they have already heard his praises in many quarters, and that before the session passes over their heads they will have ample reason to esteem him at his full worth. (Loud applause.)

Principal McCALL: I had no intention that I should be asked to do more than simply introduce the lecturer upon this occasion. I have always endeavoured if possible to secure the presence of some gentleman more or less not only connected with the medical profession, but also with our own, to deliver the introductory address. I am sure those of you who have been in the habit of attending must have been gratified upon all these occasions, and, as has been said, upon no occasion have we derived greater benefit than upon the present occasion. (Applause.) There is only one element that makes me a little sad upon this occasion, and that is parting with my friend Dr. Knox. The doctor, as he says, has been for many years associated with us in conducting a very important department of our studies—physiology—and I know every one of you feel deeply indebted to him for the service he has rendered to you in the past. (Applause.) He has been a help to all of us, and I must say that personally he has been instrumental in drawing the medical gentlemen of this city closely round the Veterinary College. (Applause.) We part as good friends as we ever were. There is no discord. Nothing of that kind has been the cause of Dr. Knox resigning his position here. It is simply that his own professional duties are so very numerous that he feels he cannot do justice to them and do that justice to the students of the College which he would like. So much satisfied was I with what he had done for us, that I asked him to name his own successor, and he has done so by naming Dr. Limont. (Applause.) Before sitting down, Principal McCafl moved a vote of thanks to Sheriff Clark, who not only came upon occasions such as the present, but who looked in very frequently at odd times, and always with a kindly word of encouragement. (Loud applause.)

The learned Sheriff having acknowledged the compliment, the proceedings terminated.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

(Continued from page 467, vol. xvii.)

Colonel KINGSCOTE, M.P., in seconding the proposition, observed that he would confine his remarks within a small compass, because he had expressed his views before, not only in that room but elsewhere. It was really a grievous thing to think that Foot-and-mouth Disease was continuing to spread throughout the country, and that throughout the autumn it had prevailed so extensively. Perhaps they might be told that the disease had not been imported from abroad since 1880; but there had been a certain number of affected cargoes arrive, and there was a probability that the disease might have been carried from them about the country. He had seen it stated that an outbreak near Weymouth was caused in this way:—Some foreign cattle came from Portland, and were slaughtered at Weymouth. The manure and the blood from that slaughterhouse were taken on contract by a farmer some few miles away, the blood was spread over his land, and his animals broke out with Foot-and-mouth Disease. He believed this story to be perfectly correct, and, if so, it showed that the virus of Foot-and-mouth Disease was brought from abroad into this country. What agriculturists wanted was that the recommendations of the Royal Agricultural Commissioners should be given effect to; and he, for one, regretted that the Government had not taken steps to carry out those recommendations. As regards the uniform action of local authorities, he thought that also was a necessity. Although England first gave the disease to Ireland, the great source of mischief at the present moment was the animals coming from that country. He maintained that the only way of stopping the mischief was to adopt the hard-and-fast rule, that where disease broke out, the area round it should be very tightly drawn. The present regulation of half a mile was next to useless. The moment

disease broke out, let there be declared an infected area for two miles round it. Mr. Randell had alluded to the fact that in some parts of the country the farmers were almost in open rebellion, and one could hardly wonder at it. But he would ask them to have a little patience. The chief constable of Cumberland and Westmoreland presented a report lately, showing what these counties had saved by the restrictions put upon them. In his own county (Gloucestershire) they had been free all the autumn, though they had a very difficult place to contend with, viz., the Bristol market; but the Gloucestershire local authority prohibited any animals coming into the county from that market without first undergoing quarantine. Although the farmers were suffering very much—he himself was suffering—in consequence of being unable to buy young stock, yet they were all thankful to the local authority for having placed restrictions on the movement of cattle, and so prevented the disease coming into the county.

Mr. WAKEFIELD said that being identified with what he might call the Cumberland and Westmoreland system, he might be allowed to say a few words. It might be taken for granted that a great deal of disease was coming from Ireland, and that the disease was introduced into it from England, but if there had been uniformity of restrictions, the disease might have been speedily stamped out. It seemed that during the present year forty-three cargoes of diseased animals had arrived at English ports, and therefore there was grave suspicion that disease might have been re-imported into this country from these importations. But he certainly thought that a great deal might be done by uniformity of regulations. The advantage in Cumberland and Westmoreland had been very considerable, but while subjecting themselves to grave restrictions, and succeeding in keeping clear of the disease, they felt it to be a hardship that other localities should be so careless in the matter, and thus the inconvenience was kept up. If they applied common sense to outbreaks throughout the country the disease might be got into a very small compass, and the distressing inconvenience might be avoided. The Privy Council had given full powers to the local authorities, and the need was that these powers should be exercised. If the local authorities refused to exercise them, the Privy Council should step in.

Mr. LITTLE said it was admitted on all hands that for the future prosperity of agriculture in this country, breeding of stock of all kinds was of paramount importance. That being so, he should like to ask how, under present circumstances, it was possible to increase breeding stock. This year he had been able to breed something like fifty head of cattle; some fifteen head of these had succumbed to the disease. Next year, in consequence of cows slipping their calves, and other losses due to the disease, he should reduce the number to thirty; and the following year probably to twenty. He believed that Professor Brown, and most gentlemen connected with veterinary science, would tell them that it was possible to stamp out Foot-and-mouth Disease. He asked, If it could be done in this country, why could not it be done in those countries from which we obtain this disease? Let them show that the disease was stamped out, and England would be willing to take their stock. Great surprise was expressed from time to time that certain counties did not submit to restrictions; but it must be remembered that farmers in those counties had to pay their rent, and that could not be done if they were unable to stock their land, and sell them when fit for market. Notwithstanding the Society's previous failures by deputations to the Government, he hoped they would be influenced by the resolution of to-day.

Lord EGERTON remarked that the Government say that under the present Act they were unable to prevent the introduction of live animals from abroad, except as a temporary measure, but he ventured to think that this was not a

sound argument, for they have shown that it can be done in reference to France. He thought that the Government would be perfectly justified in doing to other countries what they had done to France, and, if necessary, call for an indemnity at the beginning of next session. He believed that the tone of despair, and the chafing at internal restrictions, was because the farmers felt that unless the disease was kept out, these restrictions were useless. At the same time, he believed this feeling did not exist in all counties—not in Cheshire, for instance, where the restrictions had been loyally carried out.

Mr. DENT knew he represented a minority of one on this question, but he would be wanting in moral courage if he heard all the remarks which had been made without entering a protest. He looked upon the statements as to losses by Foot-and-mouth Disease, and the figures put before them, as to a very great extent exaggerated. He could speak decidedly as to a large portion of the West Riding that to be prevented by restrictions from getting cattle at this moment would be far more serious to farmers than the importation of Foot-and-mouth Disease. He was sorry to say that Foot-and-mouth Disease was spreading at this moment in the West Riding, and was likely to spread for the next few weeks ; but he thought that the feeling of alarm about the disease was not so widespread as the Council and some other bodies seemed to think. He knew farmers who bought cattle from the York market, but, although affected with the disease, he believed there was scarcely a case in which they were treated by a veterinary surgeon or anybody else. He did not believe that the ordinary grazier had the dread of Foot-and-mouth Disease which seemed to be felt by others. It was not within his experience that farmers gave up breeding on account of disease, the reason being that it was found more profitable to buy grazing stock from Ireland. He thought they should be very careful about urging the Government to impose uniform restrictions, which would be strongly objected to in grazing districts.

Mr. ASHWORTH considered that Mr. Dent's speech would be most dangerous, and be quoted by many people on the opposite side, and be made more use of than even Mr. Dent intended. In the district in which he (Mr. Ashworth) lived—in Cheshire—a petition was got up and signed by nearly two thousand farmers, in three days, to pray the Government to impose the restrictions desired by Mr. Randell's motion. It was now quite time to apply another lever to the Government.

Lord FEVERSHAM thought it very necessary that the representation proposed should be made to the Government. Could not the Government institute a more efficient system of inspection at markets? He understood that very often the inspection was very inadequate.

Professor BROWN said that before the resolution was put there were one or two points upon which the Council should be informed. Of course it must not be forgotten that anything coming from the Royal Agricultural Society attracted very considerable attention on the part of the Government, and it was very unfortunate when anything was asked which could not be granted, or if anything was asked for under a misapprehension. If the Council went with this proposition to the Government they would be asked what they meant by the term "contagious"—whether they meant Foot-and-mouth Disease, or used the term as it was employed in the Act. If the latter, they were asking that all live animals from exporting countries should be stopped, because there was no exporting country that was free from disease. Consequently they were asking the Government to supersede the present Act. This the Privy Council had no power to do. All the Privy Council had done was to prohibit, in the case of France, and previously in the case of one of the Spanish or Portuguese ports, to prohibit temporarily the landing of animals on account of Foot-and-mouth Disease. That was fully within their powers.

But when they asked for the prohibition of the importation of all animals from countries as to which they were not satisfied, and when it was known that there is no country as to which the Privy Council was satisfied, there was positively no country which would come under the exception, and therefore they were asking the Government to legislate, and not to carry out the law. His conviction was, that if British farmers wanted to protect themselves from the introduction of foreign diseases as completely as possible (nothing could give absolute protection, for infected material might be conveyed in a variety of ways), there was no alternative between the present system and the absolute prohibition of the importation of all live animals. Intermittent and occasional prohibition was pure delusion as to giving protection. As to uniformity of regulations, the Privy Council were utterly powerless to effect this. Moreover, the feeling of the country would be absolutely opposed to the Privy Council taking the initiative and imposing sufficient restrictions. Memorials were being constantly sent in to the effect that the restrictions are extremely embarrassing, and that they ought to be at once revoked. He was quite aware that many owners of store stock regarded the disease as a trifling matter, but he was also aware that to owners of breeding stock and fat stock it was a terrific calamity. Foot-and-mouth Disease was quite as contagious—quite as easily spread—as Cattle Plague, and if they said that it was more economical to stamp out Cattle Plague by slaughter, that was the remedy for any disease they wished to get rid of. The restrictions already made had not been in the direction of stamping out; they had been merely restrictive, intended to moderate the extent of the disease, and they had produced that effect. In conclusion, Professor BROWN stated that the Privy Council could not insist upon inspection of markets. The local authorities were empowered to appoint inspectors for such purposes.

The proposition was then put to the vote, and carried unanimously, and the President was asked to forward it to the Lord President of the Council.

The report of the Committee was adopted.

THE SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

A QUARTERLY meeting of the above was held in the London Hotel, Edinburgh, on November 21st, the President, C. Phillips, Esq., A.V.D., 3rd Dragoon Guards, in the chair.

Present: Professors Walley, Williams, Baird, and Lewis; Messrs. Phillips, Cameron (Berwick-on-Tweed), Cunningham (Slateford), Baird, A.V.D., 2nd Dragoons (Edinburgh), Boyd (Melrose), W. O. Williams, Dalling (Bathgate), Gray (Edinburgh), a few students, the representatives of the press, and the Secretary.

The following gentlemen were nominated for membership:—Mr. Finlay Dun, M.R.C.V.S., by Mr. R. Rutherford; Mr. Burnet, M.R.C.V.S. (Maybole), by Mr. W. O. Williams; Mr. Hume, M.R.C.V.S. (Haddington), by Mr. Lewis.

The rules for the constitution and regulation of the society, as at present in force, were read and compared with a revised set, which the SECRETARY gave notice he would bring forward for adoption at the next meeting.

The election of office-bearers for 1884 was then proceeded with, the following gentlemen, after being duly proposed and seconded, being elected: President—Professor Walley, Royal Veterinary College, Edinburgh; Vice-Presidents—Messrs. Boyd (Melrose), Cameron (Berwick-on-Tweed), Connochie (Ayton); Secretary and Treasurer—Professor Lewis, New Veterinary College.

Professor LEWIS then read a long, very interesting, and exhaustive paper

on "Bacteria," which it was determined by the society should be forwarded to the professional journals for publication, and for which he received a hearty vote of thanks.

The following is Professor Lewis's paper :—

BACTERIA.

Probably there is no other subject which is exciting such deep interest in scientific circles at the present time as that of bacteria. This is owing in a great measure to the rapid advances which have recently been made in the elucidation of the part played by these small organisms in the economy of the world, and to the startling discoveries of the exceedingly important phenomena resulting from their activity.

Bacteria have a wider distribution than any other class of animate bodies. They are present around us on every side : in the soil, in nearly all waters, in the air we breathe, in our food, on the surfaces of our bodies, and even within us. In health they occur in considerable numbers in the alimentary and respiratory organs of man and animal. In disease they invade the blood and various tissues of the body. They are present in all decomposing animal and vegetable matters, and in most substances undergoing fermentation. Their relation to putrefaction and fermentation is of an important nature, those changes being dependent upon the action of bacteria or allied organisms.

Putrefaction is the change which occurs when dead organic matter breaks up and its constituent elements unite to form new and simpler compounds. Shortly after the death of an animal its tissues commence to putrefy—that is to say, the complex organic compounds are resolved into simpler substances, as ammonia, water, carbonic acid, sulphuretted hydrogen, etc. At the end of the process the animal matter has disappeared, and in its stead we have a number of substances in a condition fit to be utilised as food by members of the vegetable kingdom. This putrefaction is caused by bacteria. If it were not for them the dead bodies of animals and plants would, under ordinary circumstances, remain in an unchanged condition for years.

That putrefaction is brought about by bacteria can be proved experimentally. Exclude the organisms, and putrefaction will not occur. The preservation of meat, fish, etc., by "tinning" is an example of this. Up to a recent date this method of preserving substances was carried out with the idea that putrefaction is caused by the oxygen of the air, and that if it were excluded the substance would remain free from decomposition. The falseness of this conclusion can be demonstrated by exposing organic matter to the action of air which has first been filtered through cotton wool in order to free it from bacteria. If the air has been properly filtered decomposition will not set in, no matter how long the exposure last.

Putrefaction is but one example of the numerous changes due to the action of bacteria. They are the exciting cause of several of the fermentations—as butyric fermentation, the change which occurs when butter turns rancid ; the acetous fermentation, as in the preparation of vinegar ; and the lactic acid fermentation, as in the souring of milk ; while the pathogenous or disease-producing bacteria play a still more important part in the causation of most of the principal infective diseases, as Anthrax, Swine Fever, Tuberculosis, Relapsing Fever, Fowl Cholera, etc.

PLACE IN NATURE.—Bacteria belong to the vegetable kingdom. They are the lowest and simplest of all plants, appearing to stand at the very threshold of the vegetable kingdom. Indeed, they possess so few of the characters of the higher plants, that for years after their discovery by Leuwenhoek in 1675, much uncertainty existed as to their true nature. At first they were generally regarded as belonging to the animal kingdom,

on account of their possessing the power of locomotion. By some they were even placed in the inorganic kingdom, being looked upon as mere crystalline matter. But at the present time no doubt exists in the minds of those who have specially investigated the subject as to the vegetable nature of bacteria.

The term *bacterium*, signifying rod-like, is not altogether a suitable one for these organisms, as some of them never take on the rod-shape at all. In order to avoid this incongruity, the term *schizomycetes* (cleft fungi) is now often used instead. Bacteria are defined to be cells deprived of chlorophyll, of globular, oblong, or cylindrical shape, sometimes sinuous and twisted, reproducing themselves by transverse fission and by the endogenous formation of spores, living isolated or in cellular families.

STRUCTURE.—A bacterium is a single-celled plant. It consists of a cell wall and cell contents, many of them being provided also with fine hair-like filaments at their extremities. These filaments are known as cilia or flagella. The cell wall is not under ordinary circumstances rendered visible by the microscope, but its presence may be proved by means of chemical reagents. It is believed to consist principally of cellulose. Potash and ammonia do not destroy it, and it shows great resistance to the action of acids and putrefaction. In some bacteria the cell wall is rigid, while in others it is very flexible.

The cell contents differ from the cell wall in being nitrogenous. They consist principally of protoplasm, which has a homogeneous structure in the smallest bacteria, while in the larger varieties it often encloses vacuoles and granules. Many of these granules are particles of pure sulphur, and may be dissolved out with carbon disulphide. The protoplasm is usually colourless, but in the coloured bacteria it may be blue, yellow, or red, owing to the presence of pigment granules. Unlike the protoplasm of the higher plants, it never contains chlorophyll. The coloured bacteria have been divided into two groups: (1) Those which manufacture their own colouring matter, and (2) Those which borrow their pigment from adjacent substances. The coloured bacteria are much less numerous than the uncoloured ones, but occasionally they occur in immense quantities. Warming states that in Norway, red bacteria appear in summer in such masses that the borders of the sea are sometimes coloured of an intense red.

Cilia are exceedingly fine hair-like processes found at the extremities of most of the true bacteria. There may be one, two, or three at each extremity, but usually not more than one. Owing to their extreme tenuity it is a very difficult matter to see the cilia, even with the highest powers of the microscope.

Form.—Bacteria are met with in different shapes. Even the same organism may vary its shape during different periods of its existence. It may be round, oval, rod-like, or filiform. The filiform bacteria may be straight, waved, or spiral. The straight ones may be equally cylindrical, or they may present an enlargement at one end, at each end, or in the middle.

Size.—Bacteria vary greatly in their dimensions. The smallest are only just visible under the highest powers. They measure about the $\frac{1}{30000}$ of an inch: while the spirilla—the largest—measure about the $\frac{1}{500}$ of an inch in length. *Bacterium termo* has a length of from $\frac{1}{12000}$ to $\frac{1}{3000}$ of an inch; *bacillus anthracis* a length of about $\frac{1}{3000}$ of an inch.

Movement.—Bacteria are divided into motile and non-motile. Most of them possess the power of movement during some period of their existence. Many enter into stages of rest, during which they appear to be incapable of movement. *Bacillus anthracis* is non-motile under ordinary circumstances, a feature which assists one in distinguishing it from other like organisms, but, according to Cossar Ewart, under certain conditions it becomes actively

motile. The movements manifested by bacteria are of two kinds—motion and locomotion. The first consists in a movement of the fungus on itself, in which it appears to revolve round the axis of its own body. This is the only kind of movement shown by the micrococci. The second or locomotive movement is one of translation. It results in the passing of the organism from place to place.

The movements of bacteria are generally stated to be due to the vibrations of their cilia. Some authorities deny this, and affirm that the motor power lies in the body of the bacterium. Warming states that one meets with some examples in which the body remains motionless while the cilia are in violent agitation, and others in which the body moves while the cilia remain inert or dragging behind.

When bacteria occur in numbers in fluids or tissues they arrange themselves in various ways in regard to each other. They may be free and quite independent, or attached end to end forming chains, or grouped together in irregular masses, with or without an intermediary mucous substance. When the chains are formed by the union of globular bacteria they receive the name of *torulæ*. The term *leptothrix* is applied to a chain consisting of rod-like bacteria. Masses of bacteria held together by an intermediary jelly-like substance receive the name *zooglea*. Opinion differs as to the origin of the mucous matter of zooglea, some believing it to be formed by jellification of the cell wall, others holding that it is a secretion from the cell protoplasm. The term *mycoderma* is applied to masses of immobile bacteria, devoid of intermediary mucous matter, when occurring as films floating on the surface of liquids.

NUTRITION.—The conditions necessary for the development and propagation of bacteria are a proper supply of food and moisture, and a favourable temperature. Their food is partly organic, as animal and vegetable substances, and partly inorganic, as compounds of sulphur, phosphorus, and potassium. Unlike the chlorophyll-containing plants, bacteria cannot take their carbon from carbonic acid. They obtain it from some of the more complex carbonaceous bodies, as some of the organic acids, sugar, glycerine, etc. Their supply of nitrogen is obtained principally from animal or vegetable tissues, but may be taken from such compounds as urea, ammonia, and the nitrates.

Some bacteria take the oxygen they require directly from the air; these are called by Pasteur *aërobic* bacteria. Others do not require a direct supply of oxygen, and are even destroyed if exposed to free oxygen for any length of time. These are called *anaërobic*. They take what oxygen they require from decomposing matters.

It is essential for the development of bacteria that their food be presented to them along with a certain amount of water. They cannot thrive upon desiccated food.

The temperature most favourable to the development of the greater number of bacteria is 95° F. Bacteria differ very much in their susceptibility to the action of high temperatures. Putrefactive bacteria are destroyed by a temperature of 122° F. On the other hand, some of the bacilli withstand a temperature of 176° F. Spores are much less susceptible to the action of heat than the bacteria themselves. Exposure for a short time to a temperature of 212° F. does not injure them. Very low temperatures impair the activity of bacteria, but do not destroy them. According to Cohn they resist an exposure of several hours to a temperature of 0° F. And Frish states that they are not killed by a temperature of -123° F.

MULTIPLICATION.—Bacteria multiply in two ways—by division, and endogenously by the formation of spores. In propagation by division the bacterium lengthens out to about twice its original length, and then divides

into two. Each of these elongates and divides in a similar manner. This is the way in which bacteria usually multiply in the blood of living animals.

When multiplying endogenously the bacterium lengthens out into a filament, which in the course of twenty-four hours may be twenty times as long as the original bacterium. Some hours later the clear protoplasm becomes granular, and then small spots appear, which develop into refractile spores. Afterwards the walls of the filament give way, and the spores become liberated. The spores germinate and develop into bacteria, like the parent fungus, if placed in favourable conditions.

Some bacteria form enlargements or sacs; termed *sporangia*, containing from three to six spores. Toussaint has observed them on the filaments of the Anthrax bacterium in the dog. Some bacteria multiply very rapidly, as *B. termo*; others increase but slowly, as *B. tuberculosis*. With most bacteria multiplication ceases at 32° F.

ACTION OF FOREIGN SUBSTANCES ON BACTERIA.—Certain substances, as corrosive sublimate, iodine, bromine, and chlorine, act upon bacteria in an injurious manner, arresting their development or destroying them outright. Corrosive sublimate is particularly destructive to them. A solution containing one part in 20,000 parts of water is said to prove destructive to the spores of bacilli in a few minutes. One part in 5,000 parts of water is a very powerful germicide. Experiments with sulphurous acid appear to prove that it is not a very potent disinfectant. In one experiment the spores of *B. anthracis* were not destroyed by a ninety-six hours' exposure to air containing six per cent. of sulphurous acid. Carbolic acid is a much more effective germicide, though some few fungi appear to be insusceptible to its poisonous effect. A one-per-cent. solution generally destroys bacilli in a few minutes. Their spores show a greater resistance to its action; but a five-per-cent. solution kills them after several hours' exposure. At ordinary temperatures the vapour of carbolic acid has but little effect upon bacteria. Chloride of zinc in five-per-cent. solution does not destroy the spores of *B. anthracis*. Iodine and chlorine are very much more powerful as disinfectants than sulphurous acid. Alcohol has no effect upon the spores of bacilli. They will germinate after lying in absolute alcohol for several months.

CLASSIFICATION.—No satisfactory natural classification of the bacteria has been formulated as yet. Cohn's system is the best. He has arranged them into four tribes according to their form :—I. *Sphæro-bacteria*, or round-celled bacteria. II. *Micro-bacteria*, cells small and rod-like. III. *Desmo-bacteria*, larger rod-like cells. IV. *Spiro-bacteria*, cells twisted or spiral.

THE SPHÆRO-BACTERIA are very small globular or oval cells, occurring isolated or attached, forming chains, or zooglea, or mycoderma. It is believed that they do not possess the power of locomotion. This tribe includes two genera—*Sarcina* and *Micrococcus*.

MICRO-BACTERIA are short, cylindrical, rod-like cells. They may be free, or attached in pairs or in chains, or forming zooglea. They are actively motile. But one genus—*Bacterium*.

DESMO-BACTERIA are rod-like cells, larger than those of micro-bacteria. They occur free or in chains, and are mostly motile, though some few appear to be non-motile. There are two genera—*Bacillus* and *Vibrio*. The genus *bacillus* contains many of the best-known disease-producing bacteria, as *B. anthracis*, *B. tuberculosis*, *B. lepræ*, etc.

SPIRO-BACTERIA are actively motile, curved or spiral cylindrical cells. Free or forming chains. This tribe includes two genera—*Spirochæta* and *Spirillum*.

Over thirty different species of micrococci have been described. Many of these are closely connected with the causation of certain diseases. The most important species are :—

Micrococcus vaccinae, found in the lymph of the vesicles of Vaccinia. It is believed to be the contagium of the disease, as the lymph becomes inert when the micrococci are removed from it by filtration. The same or a similar organism is found in the pustules of Small-pox.

M. diphtheriticus, found in the false membranes of Diphtheria, and in the lymphatic glands and vessels. In advanced stages of the disease they are sometimes present in the blood-vessels in such quantities that they block up the capillaries, or even cause them to burst. Their true relation to the disease is uncertain, but they are considered to be its cause.

M. of erysipelas, found in great quantities in the lymphatics in Erysipelas. Koch, Orth, Ziegler, and others state that it is the cause of the disease. The disease can be transmitted to the rabbit by inoculation with the micrococcus.

M. septicus occurs in suppurating wounds, and in various parts of the system in Pyæmia and Septicæmia. Though *M. Septicus* or allied organisms are found in the blood in some forms of Septicæmia affecting the lower animals, they are not usually met with in the blood in the ordinary Septicæmia of man. In this disease the bacterium manufactures a soluble poisonous ferment, termed *sepsin*, which, when absorbed into the system, gives rise to Septicæmia.

M. bombycis, the cause of Pébrine, a very fatal disease affecting silkworms. They are found in the intestines, tissues, and eggs of the diseased insects.

Micrococcus suis, found in the blood and tissues of animals affected with Swine Fever. Experimental investigation seems to have proved that it is the cause of the disease. Some authorities place this organism in the genus bacillus, and term it *B. suis*.

Sarcina.—In this genus the globular cells divide crosswise, and the young cells arrange themselves in groups of four or multiples of four. These fungi occur in the stomach, lungs, and urine, but their presence is regarded as being unimportant.

Microbacteria.—Numerous species of the genus Bacterium have been described. Bacterium differs from Micrococcus in its form, which is rod-like, and in the possession of the power of locomotion. The most interesting species are :—

B. termo.—The active cause of ordinary putrefaction, and occurring in all putrefying organic matter. It is a short rod-like cell, about the $\frac{1}{12000}$ of an inch in length, and is furnished at each end with a cilium.

B. synxanthum.—Occasionally found in milk, especially in boiled milk, which has been allowed to stand for some time. It changes the colour of the milk, giving rise to what is known as “yellow milk.”

B. syncyanum is also sometimes found in milk. It causes the so-called “blue milk.” The “red milk,” sometimes met with in this country, is probably caused by a similar fungus.

B. acruginosum.—Occasionally found on the surfaces of suppurating wounds, giving a green colour to the pus.

DESMO-BACTERIA.—The most important species of Bacillus are :—

B. anthracis.—Occurring in the blood and tissues of animals affected with Anthrax, and the undoubted cause of the disease. It is a rod-like organism, with a length of about the $\frac{1}{3000}$ of an inch. Is generally considered to be non-motile ; but, according to Ewart, when placed under favourable conditions it is freely motile. The spores of *B. anthracis* are exceedingly resistant to the action of ordinary destructive agents. Pasteur states that they retain their disease-exciting power after lying in the ground for ten years. When the bacillus is cultivated in chicken broth, for some time its virulence becomes modified. It still retains the power of causing Anthrax when introduced into

the system of a living animal, but the attack is usually of a mild nature. As one attack of Anthrax confers immunity from a second, inoculation with the cultivated bacillus is now used for the purpose of rendering animals insusceptible to attacks of the naturally occurring disease. Preventive inoculation has proved a failure, however, in the hands of some operators, and much controversy is going on at the present time as to its practical value.

With Pasteur the operation has been a decided success. In one experiment he inoculated twenty-five sheep out of a flock of fifty with the cultivated bacilli. A fortnight afterwards he inoculated the whole flock with the ordinary virulent Anthrax bacilli. The twenty-five unprotected sheep died of Splenic Fever within fifty hours; the twenty-five which had been protected by inoculation with the cultivated bacilli resisted the infection.

It is probable that the *B. anthracis* grows normally outside the bodies of animals, as it can be readily cultivated in many vegetable infusions, and on crushed oats, barley, maize, beans, and other vegetable matters, providing a sufficiency of water be present. This fact will account for the occurrence of many of the so-called spontaneous outbreaks of Anthrax.

The bacilli of Quarter-ill appear to differ somewhat from the ordinary *B. anthracis*. They are shorter and thicker. When collected together in masses they give rise to the evolution of quantities of gas, thus causing one of the characteristic symptoms of the disease.

B. subtilis found in hay tea and other infusions. Cohn states that it is the cause of the butyric fermentation. It differs from the *B. anthracis* in being motile under ordinary circumstances, and in possessing rounded ends furnished with cilia, while the *B. anthracis* has square ends and no cilia. Buchner holds that these two bacilli are very closely related to each other, and states that by careful cultivation in animal matter the *B. subtilis* may be transformed into the *B. anthracis*, and, conversely, the *B. anthracis*, by proper cultivation, into the *B. subtilis*.

B. tuberculosis.—Found in the tubercles and sputa of animals affected with Tuberculosis. These bacilli are slender, motionless cells, isolated or united, forming short chains. Sometimes they enclose large central spores, which, being broader than the cells, cause the bacilli to have a fusiform shape. The bacilli of Tuberculosis grow very slowly, and it is believed that they do not develop naturally outside the body. To Dr. Koch belongs the merit of discovering these bacilli, and of proving them to be the cause of the disease both in man and animals.

B. lepræ occurs in various tissues of the body in persons suffering from Leprosy. These bacilli are very slender, and can be seen with great difficulty unless stained. They resemble the *B. tuberculosis*. The investigations of Hanson and Neisser prove that they are the cause of Leprosy.

B. œdematis, described by Koch as being found sometimes in putrefying matters, and producing in animals malignant œdema, a disease somewhat resembling Anthrax.

B. malarie found in the air and soil of marshy districts, and in the blood and spleens of patients who have died from malarious Fever. Said to be the cause of malarious Fever.

B. choreæ ovis, discovered by Professor Williams in the spinal fluid of animals affected with Louping-ill, and in the bodies of ticks obtained from Louping-ill districts. He believes it to be the exciting cause of the disease.

B. of Cholera.—During the present year Koch, while investigating the pathology of Cholera in Egypt, discovered numbers of bacilli in the mucous membrane of the intestines of patients dead from that disease. The bacillus resembles one which is found in animals affected with Anthrax.

SPIRO-BACTERIA.—The genus *spirochæta* contains one species of pathological interest, the *S. Obermergeri*. This fungus, often spoken of as

"spirillum," is found in the blood of patients suffering from Relapsing Fever. It is the cause of the disease, as proved by inoculation experiments on monkeys.

In addition to the diseases already referred to, bacteria are found associated with many other morbid conditions, as Typhoid Fever, Measles, Scarlatina, Yellow Fever, Foot-and-mouth Disease, Pleuro-pneumonia, Glanders, acute yellow Atrophy of the Liver, some forms of Endocarditis, Foot Rot in sheep, Croupous Pneumonia, Syphilis, etc. But in most of these diseases the exact significance of the presence of the bacteria has not yet been determined. The mere presence of bacteria in the bodies of animals affected with certain diseases is not sufficient to justify their being looked upon as the cause of those complaints.

Professor WALLEY next showed an improved tooth-rasp, the improvement consisting of an india-rubber band fitted with a groove on the sides and point of the rasp, which prevents injury to the mouth when the instrument is being used. He also exhibited the testicle of a boar, enormously increased in bulk, the major portion of the enlarged mass being tuberculous; and in doing so, he took occasion to point out, how easy in such a case it was for the disease to be propagated. Also the testicle of a pony (destroyed for dissection) affected with Lymphadenoma, the weight of which was 18½ lbs.

For both exhibits the professor was thanked.

Some discussion then took place as to the annual meeting, which it was hoped would be largely representative of the three Scottish Veterinary Medical Associations, and of the form it should take on this occasion. Finally, Messrs. Rutherford and Lewis were authorised to form a small committee to make all the arrangements; and after a vote of thanks to the chairman for presiding, the meeting separated.

C. RUTHERFORD, *Secretary.*

PATHOLOGICAL SOCIETY OF LONDON.

AT the ordinary meeting held on December 4th, Dr. DAWSON WILLIAMS read a note of some experiments on the Etiology of Tuberculosis. He said that after Villemin had in 1865 firmly established the fact of the inoculability of Tuberculosis, his experiments were repeated and confirmed by many observers, some of whom went further, and maintained that Tuberculosis followed, in the rodents, the infliction of various injuries, and the injection of such substances as quicksilver and charcoal into the jugular vein (Lebert and Wyss), and as aniline blue into the subcutaneous tissue (Waldenburg); Dr. Wilson Fox obtained a like result with putrid muscle, the products of acute inflammation, and vaccine fluid. Dr. Fox also found that inoculation with pyæmic pus and the introduction of a seton, were with considerable frequency followed by Tuberculosis in the rodents, and these observations were confirmed by Dr. Burdon Sanderson. A number of the observers had produced Tuberculosis by the inoculation of various non-tubercular substances, among whom were Sir Andrew Clark, Mr. Simon, Ruge, Empis, and Behier; and quite recently Formad and Robinson, in Philadelphia, made a very extensive series of experiments, with striking results. At the request of Dr. Wilson Fox and Dr. Sanderson, Dr. Williams had repeated some of the earlier experiments with non-tubercular material; care was taken to avoid contamination with tubercular material, but no antiseptics were used. The repetition of the experiments with putrid fluids gave entirely negative results; all the animals (guinea-pigs) which survived the primary infective fever (when this occurred) recovered entirely, and when killed after varying periods presented no lesions of either a tubercular or pyæmic character. In seven guinea-pigs setons were introduced, but all the animals remained healthy, and when killed were found quite free from disease. Dr. Dawson Williams

referred to Mr. Watson Cheyne's experiments published while his were in progress, and remarked that his results entirely coincided with Mr. Cheyne's on this point. In Germany, Salomonsen and Baumgarten had made numerous experiments with the products of inflammation, with tumours, and with fungi and micro-organisms, with negative results. All the experiments of Waldenburg, Fox, Sanderson, and Cohnheim had now been repeated with negative results. The evidence, therefore, was all against the theory that Tuberculosis could be produced in any other way than by infection with tubercular material. Dr. Dawson Williams further thought that the observations on the eye after inoculation recently published by Baumgarten and Aendt were extremely important, and appeared to show that the growth of the bacilli preceded the characteristic histological changes, which would make it appear that these changes were the reaction of the tissues under the peculiar stimulus of the growing bacillus. The all-important *rôle* now assigned to the bacillus was thought to land us in fresh difficulties, and it seemed possible that it might, after all, be shown that the activity of the bacillus was, when a broad view of the etiology of the disease was taken, of secondary importance.

Dr. WILSON FOX corroborated the statements contained in Dr. Williams' paper; and then said that it was owing to the recent publications of Cohnheim and Koch that he determined some months ago, and before he was aware of the work of Mr. Watson Cheyne, to repeat his former experiments on the artificial production of tubercle in animals. The latest conclusions of Cohnheim, and the new discovery of Koch, both favoured the view that Tuberculosis was a specific disease. If that were the case, then other observers ought not to allow their observations to stand in direct contradiction. He must say that the results recorded by Dr. Williams were quite different from what he had expected. However, he felt convinced that there must have been some fallacy in the carrying out of his (Dr. Fox's) original experiments, although he could not say what that fallacy was. He had observed that no non-inoculated guinea-pig had taken the disease whilst living with other tubercular animals. It had been shown by others that if an injured guinea-pig be placed with tubercular animals, Tuberculosis appeared in the injured animal. It resulted from all that had been done that we were now reduced to M. Villemin's original proposition. That observer had noted that the localisations of Tubercle, Glanders, and Syphilis were morphologically similar; and he considered that Tubercle, like the rest, was an inoculable disease. Of the bacillary aspect of the question Dr. Fox would not say much. Whether all bacilli were evolved from one genus or not he could not tell, but he thought we were in danger of establishing a "phthisiophobia" out of these most recent doctrines. Thirty years' work of Tubercle rather warned us to be on the alert against "phthisiomania" when we remembered that hardly any doctrine had lasted more than five years.

Mr. WATSON CHEYNE thought the contribution of great value from a point of view of literature; the results of Dr. Wilson Fox's experiments were long a stumbling-block to men. He briefly spoke of the reasons which had led him to make his own experiments on the etiology of Tuberculosis.

Mr. HULKE said the Society was deeply indebted to Dr. Williams, and to Dr. Wilson Fox for the noble way in which he had spoken of his previous experiments. The question whether the pathogenic bacilli were various modifications of one primary form was an exceedingly difficult one. Billroth thought they were all modifications of one primitive form, but that view would probably not be accepted by many now.

Dr. DAWSON WILLIAMS said, in reply, that he could not speak for Dr. Sanderson, as he was not familiar with his opinions on the question.

Jurisprudence.**A HORSE CASE.**FERGUSON *v.* TANNER.

THIS was an action, tried in London at sittings at Nisi Prius, before Mr. Justice Lopes and a Special Jury, on December 1st, for breach of warranty of a hunter called "Waterford," brought by Colonel Ferguson, of the 2nd Life Guards, against the defendant, a gentleman living near Buckfastleigh, Devonshire.

Mr. Matthews, Q.C., and Mr. Channell appeared for the plaintiff; Mr. M'Intyre, Q.C., and Mr. Ashton Cross were for the defendant.

Mr. Matthews having opened the case,

Colonel Ferguson was called and examined. He first saw the horse in question at Tattersall's on the 18th of October, 1882, where it was in charge of the defendant's groom. After riding the horse up and down he noticed that it coughed a good deal, and pointed this out to the groom, asking him whether his master would give a warranty against the effects of the cough. The groom said he had no doubt that his master would warrant the horse sound in wind and eyes, and that he would telegraph to him. Colonel Ferguson then gave instructions to a veterinary surgeon to have the horse examined, and the next day, going again to Tattersall's, the groom handed him a telegram which had come from the defendant, to the effect that he would warrant the horse sound in eyes and wind. Colonel Ferguson then paid a cheque to Tattersall's for the price, £200, and the horse was sent down to the barrack stables at Windsor. It was then placed under the care of Mr. Simpson, a well-known veterinary surgeon at Windsor, and was pronounced by him to be cured of the cough on November 9th. The next day the colonel rode the horse, and found that on being galloped it was a "whistler." Upon this he at once wrote to the defendant asking him to take the horse back, but the defendant declined, observing that, the horse having been sold at Tattersall's, it was one of the conditions of sale that if it did not answer to the warranty it should be returned within two days. Colonel Ferguson upon this directed that the horse should be sold by auction, and it was knocked down at Tattersall's to the defendant on the 18th of December for 36 guineas. Being asked whether at the time he bought the horse he had any communications with Tattersall's, witness replied that he had not, nor was he aware that the conditions referred to by the defendant had any application to sales by private contract.

Cross-examined.—The horse was examined by Mr. Sewell, a veterinary surgeon, on the day he first saw it. Sewell telegraphed to him that the horse had a cough and "seedy toes," but was otherwise sound. He knew that Sewell had taken the horse to the Wellington Riding School and that it had been ridden there by one of Tattersall's men. He saw the catalogue before he bought the horse. It mentioned that the horses would be sold in accordance with the conditions exhibited on the premises. These conditions he never saw. He did not think they applied to a private sale. Before he went to look at the horse he was told that it grunted.

Mr. Simpson, a veterinary surgeon at Windsor, proved that he saw the horse at Tattersall's before it was bought by the plaintiff. It was a good-looking, weight-carrying animal, but when struck it would grunt.

By the Judge.—That is an affection of the wind, is it not?

Witness.—Yes, in nine cases out of ten. He advised the colonel not to take the horse unless it was sound. The horse was placed under his care afterwards, at his stables in Windsor, for his cough, and on the 9th of November he pronounced him fit. On the 11th he examined him again, and found he was a whistler.

By a Juror.—Whistling and grunting are two distinct things.

To the Judge.—He was of opinion that the grunting here was connected with the whistling.

Cross-examined.—He tested the horse in the usual way at Tattersall's, by pinching his throat and threatening to strike him.

Charles Dowling, a groom, having given corroborative evidence of the horse's cough at the time of the sale and at Windsor afterwards,

Professor Robertson, of the Royal Veterinary College, was called. He made a special examination of the horse on the 17th of November, and found him to be unsound in wind; he was a whistler. Witness made no attempt to determine of how long standing the unsoundness was. Whistling was often connected with grunting, and would be undoubtedly aggravated by a cold or cough.

Cross-examined.—He did not know the horse had been suffering from severe cold when he examined him.

To the Judge.—He had no means of judging whether the horse was unsound on the 19th of October. If he grunted on the 19th of October it would lead him to suppose, from what he saw afterwards, that he was unsound then.

Cross-examination continued.—It was perfectly possible that a horse might be a grunter without being unsound. A few days after recovering from cold it would not be in a condition to undergo a severe galloping test. He had no means of judging whether what he observed was due to influenza.

Re-examined.—Whistling was a structural defect. He could distinguish this from the heavy breathing of a cold. Grunting might or might not be unsoundness.

To the Judge.—Cold and cough often lead to whistling. He did not think the cold and cough he had heard described would lead to the whistling he detected.

This closed the plaintiff's case, and

Mr. Cross, having addressed the jury, called the defendant, Mr. Tanner. He said he bought the horse in question in January, 1882, for £189. He hunted it the whole of that season with the Dartmoor foxhounds. He rode between 17 and 18 stone, and the horse carried him remarkably well. He never whistled, or roared, or appeared distressed. He rode him again out hunting in October before sending him to Tattersall's. He gave the warranty relied upon. Afterwards, when the horse was sold again, he bought him for 36 guineas. The horse was then taken to Devonshire, and he had been examined by three veterinary surgeons, including Mr. Pritchard from London. They all pronounced him sound. He rode the horse again as a hunter, and the reports of the veterinary surgeons were confirmed, for the horse never whistled.

Cross-examined.—He could give no reason why he wrote, in answer to Colonel Ferguson's complaint about the horse, that it ought to have been returned in two days, instead of relying upon his warranty.

Easterbrook, the defendant's groom, said he told Colonel Ferguson before he bought the horse that it had always been a grunter, and had had a cough since it left home. He was present when Sewell, the plaintiff's veterinary surgeon, examined the horse. The examination was thorough and critical, and took place at the Wellington Riding School. There was nothing now the matter with the horse's wind.

Mr. Pritchard, of the Veterinary College of Surgeons, was the next witness. He examined the horse in January, after it had been re-bought by the defendant. It was sound and not a whistler.

Cross-examined.—Grunting is not an unsoundness; it is produced by nervousness. The existence of grunting would make him suspicious of whistling, but he would never condemn a horse for mere grunting. Whistling

when incurable was caused by paralysis of nerves. Cold was the most common cause of whistling, which might be cured.

A clerk from Tattersall's was here called to produce the conditions of sale, and, in answer to the learned judge, said these conditions did not apply to a private sale.

The learned Judge.—The only question for the jury is whether the horse was sound in wind on the day of the sale.

James Heath and two other veterinary surgeons were called, and proved the soundness of the horse after it went back to Devonshire, and the huntsman of the Dartmoor hounds said he had often ridden in company with the defendant when he was mounted on Waterford, and had never detected any whistling or roaring.

This closed the defendant's case, and the learned counsel on either side having addressed the jury,

Mr. Justice Lopes summed up. The question for the jury was one of fact, whether the horse Waterford was sound in wind on the 19th October. It was common ground that the horse was a grunter, but this was not necessarily unsoundness, and to entitle the plaintiff to recover for breach of the warranty they must be satisfied that when it was given the horse had either a disease or the seed of disease such as would tend to diminish his usefulness.

The jury, without retiring, gave a verdict for the defendant, and His Lordship gave judgment accordingly.

Notes and News.

THE INTERNATIONAL HEALTH EXHIBITION OF 1884.—This exhibition, which is to be held in London, under the patronage of Her Majesty the Queen, towards the middle of this year, promises to be of a very extensive character. The executive and general committees have been formed, and have commenced their onerous task. Mr. Fleming, President of the Royal College of Veterinary Surgeons, and Principal Veterinary Surgeon to the Army, has been appointed a member of the General Committee.

HORSES IN RUSSIA.—The census of horses taken last autumn by the military authorities in fifty-eight provinces of European Russia gives a total of nearly fifteen million as fit for service in case of necessity.

PROTECTIVE INOCULATION.—The vaccination of animals, according to the plan suggested by the eminent French *savant*, M. Pasteur, in order to protect them against Rinderpest and other diseases, has been tried in British Burmah with great success. Some calves, elephants, sheep, and a pig were inoculated with M. Pasteur's lymph, and, though they suffered in no way from the experiment, the calves in particular seem to have been so far proof from further infection that they escaped scot-free when placed several times amongst herds severely affected by Rinderpest.

Obituary.

THE following deaths are reported by the Secretary of the Royal College of Veterinary Surgeons:—R. S. Bailey, M.R.C.V.S., Lambourne, Berks, who graduated in 1836; J. O. Vincent, M.R.C.V.S., who graduated in 1852; W. Bennet, M.R.C.V.S., late Banbury, who graduated in 1860; J. Beeson, M.R.C.V.S., Harrow, who graduated in 1881; A. Horne, M.R.C.V.S., Kilkenny, who graduated in May, 1866; and T. E. Hobson, M.R.C.V.S., Leicester, a graduate of 1852.

Army Veterinary Department.

Gazette, December 18th, 1883.

THE undermentioned gentlemen to be Veterinary Surgeons on Probation :—
John Armstead Braddell, Thomas Archibald Mitchell.

Correspondence, etc.

A REMARKABLE CASE OF FOUNDER.

SIR,—On perusing the article on the above by Mr. Macgillivray, in the November issue of the VETERINARY JOURNAL, I was surprised at the treatment carried out, after “resolving to relieve the poor suffering brute.”

The animal could only have had his sufferings relieved by being speedily destroyed, as the case was hopeless. The oozing of blood from all coronets clearly indicated the extent of the lesions, namely, that there was a separation of the horny and sensitive laminæ, complete in the feet of the off side and partial in those of the near side.

The blood escaping from the ruptured blood-vessels into the horny box was forced out at the weakest part, namely, at the coronet; and with the continued motion of the animal and the gravitating of the blood, with the pressure when the feet came to the ground, only caused the separation to be the more complete. As regards the escape of gas-bubbles from the feet of the off side after the toe had been cut, this proves that the destruction of the union between the horny and sensitive laminæ had been complete, as the sole also was involved to a great extent.

The air gained entrance by the wounds at the coronets, owing to there being a vacuum formed when the feet were elevated from the ground; the greater part of the air gaining entrance would be expelled when the foot was again placed on the ground.

To cut the horn at the toes to relieve pressure, by allowing the blood to escape, was surely injudicious, when the pressure was only too well relieved by the blood oozing at the coronet of all feet; this mode of treatment was only complicating the case.

Had the case been a more hopeful one, greater benefit would have been derived by rasping the walls level with the soles, and thereby preventing, as far as possible, the chance of convexity of the soles, by allowing the weight of the animal to be partly borne by them, as intended by nature.

The application of strong sinapisms to the sides of a horse is the most effectual mode of restricting the number of respiratory movements, and of bringing about the death of the animal through the formation of extra fibrine-forming material in the blood.

The temperature of the animal's body would fall by the administration of aconite given repeatedly, and by there being imperfect aeration of the blood, due to the condition of the lungs and the number of the respiratory movements being restricted.

Cold water being one of the best febrifuges, and considering what the animal had been and was suffering, no wonder he should be “willing to take a little water” to diminish his sufferings.

What the *post mortem* appearances would be in this case, should at the first visit have been fully comprehended by such a distinguished writer as Mr. Macgillivray is, many of whose former contributions I have read with pleasure, and derived great benefit from their careful study.

Yours, etc.,

THOS. A. PORTEOUS.

TWO SIDES TO A STORY.

SIR,—I often wonder what it is that possesses some people who, according to their own account, are ardent promoters of the good of the profession, to abuse the Council of the Royal College on every occasion for trying to carry out the wishes of the members who elected them. These people seem to think that the Council and the profession are not only separate entities, but that the former are doing all they can to thwart the objects and injure the prospects of the latter. It would be needless to endeavour to enlighten such persons, for they are either so hopelessly stupid or virulently malicious that nothing one could write or say would do them any good. It would be needless, for instance, to tell them that the members of Council are elected by the entire body of the profession, and are part and parcel of the profession; and that, therefore, to abuse or make unworthy insinuations against them is simply doing so to those who elected them—the members.

It is somewhat curious that this abusive treatment should chiefly emanate from those who should know better, some of whom occupy somewhat responsible positions, as teachers of veterinary students; and who should, therefore, instead of poisoning the minds of these with damaging nonsense which has no foundation in fact, or presenting them with a political picture of the profession they are about to enter which is the opposite of correct, should be endeavouring either to employ their time usefully by teaching them their calling (which is much required), giving them a taste for their profession, or inculcating respect for those who are trying their utmost to raise it. I fear there is a lot of narrow-minded, ungenerous feeling at the bottom of the disparaging remarks made about the Council, such as should not be found in any one entrusted with the teaching of young men. A bad example is very contagious to young folks, and if ill-natured sneers are the order of the day at our schools what can we expect?

It is somewhat strange and not very complimentary, that for two years in succession Edinburgh should distinguish itself in abusing the Council from professorial chairs. Last year it was a young fledgling of a professor, who had scarcely time to know what he was about. This year it is an older man, who has no excuse for either speaking or acting against the profession, of which he at any rate *professes* to be a well-wisher.

I have read with considerable pain the references to the Council of the Royal College made by the Principal of the Edinburgh New Veterinary College in the opening address delivered by him on October 24th, as reported in the *VETERINARY JOURNAL* for December. I suppose in confirmation of the old saying that “every cock crows best on its own dung-heap,” that gentleman found he could say without fear of contradiction at that time and place what he would not give utterance to at the Council. In the first place, he makes an assertion for which, I think, there is no foundation whatever. In speaking of the “rapid and upward progress” of the profession, he says this “happy result has been due to the efforts of several earnest men, who first of all founded associations for the purpose of considering the requirements of the profession generally, and of bringing those requirements before the notice of the Council of the Royal College, where, after a time, they received due consideration, and were carried into effect.” I challenge him to name the men or the associations which did this.

Next he rather, I think, sneers at the efforts of the Council in obtaining Charters and the valued Act of Parliament; but it must be remembered that in everything that has been done by the Council in the way of improving the profession by these and other means, the Principal of the New Veterinary College has in no way, so far as I am aware, assisted. On the contrary, he has ever been ready to find fault, and he evidently takes great credit to himself for having successfully opposed the last charter, in so far as the

pupilage question is concerned. And it must be remembered that in doing so he was, as a member of Council, acting in a hostile manner towards the great majority of the Council and the profession ; and there had to be summoned to oppose the Royal College, the powerful corporations of Edinburgh and Glasgow, and that opponent of the Royal College, the Highland and Agricultural Society of Scotland, to which, I believe, the Principal of the New College is Veterinary Adviser. One of the grounds of opposition to the pupilage clause of the Charter was, that pupilage with a private practitioner might damage the morals of the pupil. The profession can now see who its friends are. It will be remembered by those who were present at the last annual meeting, that this gentleman, in speaking of pupilage, had the effrontery to assert that practitioners could not teach pupils the practical part of their profession, that they did them more harm than good, and that they had to unlearn all they had so learned when they went to his school. It is rather amusing now to find that in his address (page 458 of the Journal) he is wroth with the Council because at the final examination of a student, should he fail in his practical, it will not sanction his being "allowed to cultivate his practical knowledge with a veterinary surgeon." No doubt it would be very convenient for the Principal to have his imperfectly-educated students taken off his hands, to make room for others, and so keep the mill going ; but surely he can care very little for the welfare of these unfortunates if he would ruthlessly consign them to the members of the profession who cannot teach, and with whom the morals of these highly moral three-year students would be likely to suffer so seriously. No, Mr. Principal, the Council did quite right in declining the favour your generosity tried to confer on the profession. The students have paid you full fees for teaching them their profession, and it is hardly decent that, having got their money, they should be handed over to, by your own account, incompetent practitioners, so that you may be relieved of further trouble and responsibility. "Common sense and justice" has decided that your views at the Council will not prevail in such a matter.

Notwithstanding his objections to pupilage, I have no doubt that if he were one of the maligned practitioners, instead of being the proprietor of a veterinary school, he would have as many pupils as he could accommodate ; and indignantly resent such slanderous imputations as have been applied to the members of the profession. It must be remembered that veterinary teachers are ordinary mortals, after all is said and done.

The Principal also says that "in every reform which had been established during the last fifteen years, the Council had the willing and hearty support of the schools." Nothing, to my knowledge, could be further from the truth. I am now an old member of Council, and I can testify that, for years, every attempt at improving the position of the profession in education was strenuously opposed by one or more of the schools. The late Professor Spooner consistently and persistently opposed every proposal made at the Council to improve veterinary education, and he did nothing himself to ameliorate the condition of the profession. His successor followed in the same course. Everything that has been done to improve our position, socially and scientifically, has been by the Council, which more frequently than not has been opposed by the schools.

Even the examination in general education which has now been taken up by the Council, was opposed by at least some of the schools, and would never have been brought into force had it not been for the perseverance and tact of the President.

And had it not been for the Council the profession would long ago have been split up into contending factions ; as at one time the Principal of the New College exerted himself to the utmost to break it up by agitating for another licensing body ; and not long after the late Principal of the London School,

though at the time a member of Council, tried to get licensing power for his school. No, the profession owes but little, if anything, to the schools; and if it desires to advance it must itself move and effect reforms and improvements. None will come from the schools, we may be sure, judging from their past history.

The schools are all very well in their place, to teach students the rudiments of their profession. The profession until lately has had too much of the schools politically, and too little educationally. Let us hope that all this is changed, and that if students are to be compelled to listen to the political history of the profession, they may hear a correct version.—Yours, etc.,

COUNCIL-MAN.

ANSWERS TO CORRESPONDENTS.

R. BEART, BIRMINGHAM.—A Registered Practitioner may designate himself a Veterinary Surgeon, but from the *passing* of the Veterinary Surgeons Act he was liable to a fine not exceeding twenty pounds, if he took or used any name, title, addition or description by means of initials or letters placed after his name or otherwise; stating or implying that he is a Fellow or Member of the Royal College of Veterinary Surgeons. "Reg. M.R.C.V.S. London" is an illegal title if adopted by a registered practitioner, and he can be proceeded against.

ENQUIRER.—The penal section of the Act can now be applied to unregistered persons.

R. POYER.—Yes.

No notice can be taken of anonymous communications. Whatever is intended for insertion must be authenticated by the name and address of the writer, not necessarily for publication, but as a guarantee of good faith. We cannot undertake to return rejected communications.

CORRECTION.

In the Journal for December, page 424, line 35, for "rapidly," read "rigidly."

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from J. A. Porteous, Melrose; W. Stanley Carless, Lincoln; J. B. Gresswell, Louth; R. Poyser, A.V.D., Bengal; Professor Osler, Montreal; S. Gillespie, A.V.D., India; A. McCarmick, Leeds; W. Alston Edgar, Dartford; J. Donald, Wigton; R. Beart, Birmingham; "Enquirer"; C. Rutherford, Edinburgh; "Council-man."

BOOKS AND PAMPHLETS: Transactions of the Pathological Society; *H. Warrikoff*, Ueber de Wirkung einzelner Antiseptica; *G. Schneidemühl*, Die Lupinen-Krankheit der Schafe; *R. Molkenstin*, Ein Beitrag zur Sickerstellung der Diagnose des Occulten Rotzes; *Dr. Willems*, Nouvelles Recherches sur La Pleuropneumonie Contagieuse de l'Espece Bovine; *J. M. Contamine*, De l'Epizootie Typhoïde; *A. Miglioranza*, Le Vaccinazioni Carbonchiose di Anguillara Col Sistema Perroncito.

JOURNALS, ETC.: *Deutsche Zeitschrift für Thiermedecin und Vergleichende Pathologie*; *Wochenschrift für Thierheilkunde*; *La Presse Vétérinaire*; *Quarterly Journal of Veterinary Medicine in India*; *Centralblatt für Veterinarwissenschaft*; *Quarterly Journal of Veterinary Science in India*; *La Clinica Veterinaria*; *United States Veterinary Journal*; *Archives Vétérinaire*; *Annales de Méd. Vétérinaire*; *National Live Stock Journal*; *Mark Lane Express*; *Lancet*; *Live Stock Journal*; *L'Echo Vétérinaire*; *Medical Press and Circular*; *Bulletin de la Société Centrale de Médecine Vétérinaire*; *American Veterinary Review*; *Journal de Méd. Vétérinaire*; *London Medical Record*; *Revue Vétérinaire*; *Edinburgh Medical Journal*; *Der Thierarzt*.

NEWSPAPERS: *Madras Mail*; *Calcutta Englishman*; *Irish Sportsman*; *Wolverhampton Evening Express*; *Lahore Civil and Military Gazette*; *Reading Observer*; *Daily Chronicle*.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

FEBRUARY, 1884.

ON THE DIFFERENT MODES OF ADMINISTERING MEDICINE IN VETERINARY PRACTICE.

BY A. E. MACGILLIVRAY, BANFF, N.B.

IT seems a very simple matter to give a ball to a horse, or a drench to a cow, and yet neither of these operations are without more or less danger. A few horses, and innumerable cows and other cattle, have been choked while undergoing such apparently very simple and commonplace, though absolutely necessary administrations. In general, the operator must be held guiltless of these untoward accidents. For my own part, I would far rather give three balls, than run the risk of pouring over one drench or draught.

But there are other modes of administering medicines to the lower animals, and of these the most important are the subcutaneous or hypodermic, and the tracheal. The hypodermic method has already been considerably practised in this country, although not nearly to such an extent as it ought to be ; but, in so far as I know, the tracheal mode is entirely foreign to the British veterinarian—at least, it is so practically.

We also exhibit certain medicines *per rectum*, *per bladder*, and *per vagina* and *uterus* ; but, unless *per rectum*, these are usually merely of local importance, *i.e.*, their action is intentionally confined to the cavity into which they are injected. The epidermic administration of certain remedies is also not unknown in veterinary practice, such as the inunction of cod-liver oil in

various cases, and the application of sedatives. These, however, are of comparatively rare occurrence, and scarcely need to be noticed here.

Although the subcutaneous application of medicines has become far from uncommon in this country, still the practice has hitherto been almost solely confined to sedatives and nerve stimulants. Of late, however, our French *confrères* have been giving us an example how to extend the benefits to be derived from the use of the hypodermic syringe. Notably has this been so in the case of M. Cagny. This enterprising, intelligent, and scientific *vétérinaire* has been making a series of experiments in cases of impaction of the manyplus (omasum or *feuillet*), with *sulfate d'esérine* and *vératrine*, injected subcutaneously in the neighbourhood of that particular portion of the bovine digestive apparatus. M. Cagny claims perfect success with such treatment, relief following within twenty-four hours. Certain of M. Cagny's professional brethren deny the existence of the abnormal condition of omasum referred to, and argue that M. Cagny is wrong in his diagnosis; and even if correct, doubt so speedy a removal of impaction of the *feuillet*.

M. Cagny has also used the sulphate of eserine in cases of loss of appetite, protracted parturition, Milk Fever, and as a laxative in Typhoid Fever; but, owing to the high price of this *sulphate*, he has lately been substituting *veratrine*, with equal success. I may just mention that eserine is the active principle or alkaloid of the Calabar bean (*Physostigma benenosum*), and veratrine the alkaloid of Sabadilla seeds (*Asagraea officinalis*).

I have already chronicled in these pages the subcutaneous use of Ol. croton in cases of Founder; and in addition to that M. Cagny has successfully used the same injection in the eradication of certain tumours where ligatures were inapplicable.

Injections of sulphate of eserine or veratrine have also a most beneficent effect on "broken-winded" horses, either as a hypodermic application or *per trachea*. Relief is almost instantaneous; a cessation of the heaving at the flanks taking place immediately, and even quick progressive movements may be accomplished with ease. These two medicaments also rival the new and very efficacious therapeutic agent, *Pilocarpine*, in cases of

Angina or sore-throat, the subcutaneous or tracheal injection of either of these producing instant relief, as regards tension and difficulty of breathing.

It is now some years since Captain Russell and Mr. Fearnley brought prominently before the profession the subcutaneous injection of morphia ; and in the year 1880 I published an article in the *Veterinarian*, giving a long detail of my experience in using the "Injectio Morphiæ Hypodermica," and as to its therapeutic value in certain cases. I have been using the hypodermic syringe for nearly fifteen years, but for a long time confined myself to the use of the above injection.

Recently, I have been experimenting hypodermically with sulphate of quinine ; this is a most valuable and extensively-used medicine in human practice ; but, owing to its great cost, it is seldom prescribed in our profession, as the chemist's bill for the requisite doses (*per stomach*) would soon run up to an alarming amount. The hypodermic syringe will, I am confident, enable us to utilise and reap the benefit of the beneficent properties of this invaluable therapeutic agent. Quite lately I had two very high-priced cattle under my care, and in both these there was considerable irritative fever and danger of absorption of diseased material. In one, with large sloughing sores in the interdigital spaces of the fore-feet, and showing the following symptoms, namely, blowing hard, dry muzzle, want of appetite, grinding of teeth after the usual invalid bovine fashion, and temperature 105° , I gave a pretty large dose of sulphate of quinine *per stomach*, with good effect ; seeing which, and knowing that it would never do (pecuniarily) to continue such doses *per stomach*, I resolved to adopt the hypodermic method with an acidulated aqueous solution of quinine—I to 5. Of this I began with 30 minims hypodermically, being just $\frac{1}{10}$ th of what was necessary *per stomach*. Both my valuable patients did well.

In a highly-bred polled heifer, or rather young cow, which was recently under my care, having been severely torn during parturition in both roof and floor of vagina, there was much irritative fever, abominable smell, almost constant pains, and, in my opinion, hourly danger of absorption of part of the sloughing lacerated parts of the vaginal walls. I gave six-grain doses of

quinine hypodermically, in addition to frequent irrigations of the vaginal walls with a strong aqueous solution of carbolic acid. This heifer or cow came all right. I consider the action of quinine very efficacious in such cases, preventing alike the rigors so commonly seen here, and the absorption of diseased material, and keeping down the almost certain greater or less amount of sympathetic fever.

I remember some years ago losing a magnificent black-polled quey, by absorption of diseased material from a lacerated vagina—a real case of blood-poisoning, all the leading characteristics of the same being but too well marked on *post-mortem* examination. I am certain this quey would have brought 250 guineas at the present time!

The cinchona alkaloids may be used, both hypodermically and per trachea, for a great many maladies, and at far less expense than per stomach. In fact, the hypodermic syringe ought to render quinine quite a “standing card” in veterinary therapeutics.

Turning to the tracheal mode of administering medicines to the lower animals, we find quite an enthusiastic expounder of that method in Dr. Levi, of the University of Pisa. His memoir on the subject has been published in French, and may be had for about 3s. 6d., and ought to be in the hands of all who can appreciate “something new” and useful. M. H. Bouley, the talented editor of the “*Recueil de Médecine Vétérinaire*,” has given us a very good critical synopsis of Dr. Levi’s book in the pages of the “*Recueil*” for 15th March and 15th April last, and M. Cagny has introduced the subject at the meetings of the French Central Veterinary Medical Society. M. Levi’s memoir is a very interesting one, and shows plainly that the author is quite proud and enthusiastic about the genuineness and great value of his pet method of administering medicines.

To some parties the administration of medicine per trachea may appear not only dangerous, but absurd; but experience says the reverse, for it seems proved that a great many valuable and powerful therapeutic agents may, with the utmost safety, be injected into the trachea, and so become very quickly absorbed into the system, by means of the mucous membrane of the respiratory passages. In chest or lung diseases, this is no doubt

a great aid towards the successful application of the necessary remedies. You can, in fact, almost apply your remedy directly to the diseased part. A good example of this may be found in the treatment of Phthisis Pulmonalis Verminalis. Here we can inject per trachea Ol. terebinth, Ol. olivæ et camphor, which may come in direct contact with the invading parasites.

For a good many years I have occasionally used Ol. terebinth, or Ol. paraffin, for a like purpose and after a similar fashion; but with this difference, that while Dr. Levi injects the application in between two of the cartilaginous rings forming the trachea, I poured the same in at the nostrils, generally in small quantities, and squeezed from a sponge. In 1874 we had a good deal of Pleuro-pneumonia round about here, and certain parties got into a perfect craze about Ol. paraffin as a preventive of "Pleuro," and a great many cattle at infected centres were most unmercifully dosed with the same per nostrils. I subsequently was called upon to make a *post-mortem* of several of these paraffined cattle in advanced stages of Pleuro. I remember one young calf, which was literally soaked with paraffin—as a preventive—squeezed from a sponge into its nostrils, which calf still succumbed to the disease, the *post-mortem* revealing consolidation in both lungs.

The great drawback in these applications of turpentine or paraffin per nostrils, is their passage through the larynx, the extremely sensitive mucous membrane of which quite abhors contact with any solid or fluid. This untoward cause of irritation is obviated by the injection of the therapeutic agent directly into the trachea, the mucous membrane of which is not so particularly sensitive, but rather the reverse, and is on the other hand endowed with highly absorbent powers; this comparative non-irritability and great power of absorption is continued into the bronchi.

I believe the injection of fluids directly into the trachea, to quite a heroic extent as regards quantity, was long ago practised on the Continent, but with no sort of plan and as little benefit; so that it has been left to Dr. Levi to bring the method into something like a system, and, as I have said, he is quite enthusiastic about its success.

A very small trocar and canula is introduced into the trachea, between two of the cartilaginous rings, the trocar is withdrawn, and the medicament (whatever it may be) is injected very gently through the remaining canula. The hypodermic syringe comes in very conveniently here, as by it we can regulate the dose which we wish to administer. In fact, in a great many cases I don't see any reason why the hypodermic syringe could not be used directly without the intervention of trocar and canula. In so far as I remember, M. Cagny proposes using, in cases where the injections into the trachea have to be often repeated, a miniature tracheotomy tube, which is to remain *in situ* as long as these injections are necessary.

Some of Dr. Levi's propositions and experiences will, I am afraid, require to be received "cum grano salis"—such as the curing of well-marked chronic Glanders in about a week, by repeated tracheal injections of iodine and iodide of potassium; and the eradication of pulmonary gangrene (of even restricted extent) by injections of sulphate of quinine.

Rather more reasonable are the details of his experience in treating cases of Typhoid Fever in the horse, by repeated tracheal injections of quinine; although, even here, the cure often follows rather close on the treatment.

On the whole, however, I am inclined to look with a favourable eye on the generality of Dr. Levi's propositions; and I intend in the next Journal, with the Editor's kind permission, to revert to this subject, and give an analysis of a number of the doctor's formulæ, and also offer a few critical observations on his *therapeutique clinique*.

CASES OF ENDOCARDITIS.

BY RICHARD BURKE, M.R.C.V.S., ARMY VETERINARY DEPARTMENT, INDIA.

I.—*Endocarditis in the Dog.*

THIS form of disease must necessarily be considered as rather formidable; since, if it be neglected, or not early diagnosed, it most commonly ends in death. It most frequently occurs in the

acute form, when the nature of the disease remains undetected until the last moment, when it is too late for medical interference, as life is shortly extinct from the first manifestation of the more active symptoms. The disease also occurs in the subacute form, when sedative remedies ought to be cautiously administered ; a proceeding, however, which seldom affords satisfactory results, since the patient is doomed to an early death, resulting not uncommonly from detachments of fibrinous particles from the heart's cavity being carried away, by the force of the circulation, into the smaller arterioles and capillaries of the brain, and there causing softening and degeneration and even cretification, as a case I recently had to examine, when at Allahabad, clearly proved. The history of this animal left no doubt in my mind that Endocarditis in the dog must further be regarded as essentially a hereditary pathological state, oftener traceable to the latter than to any other cause, to judge from this case alone, which occurred in one of a litter of five pups, all of which were said to have died similarly affected before arriving at the age of two years, my patient being a little over three years old at the time of his death.

More recently the same opinion received appreciable justification in the following case, which occurred in a spaniel bitch, three years old, belonging to Lieutenant Grant, of the 10th Lincolnshire Regiment. Mr. Grant described the history and symptoms presented by the animal before her death, in the following words : That there was noticed nought but slight dulness the evening previous in his spaniel, which became suddenly very ill the next day, and showed symptoms of great excitement, with foaming at the mouth, going round and round a circle on her left in a cautious manner, as if in great internal pain, and then suddenly dropping dead before him without a struggle, a few minutes after she first manifested any palpable symptoms of illness. She had only recently given pups, was in excellent condition of body, and had manifested no signs of internal disorder until the time immediately preceding that of her death. The brother to this bitch had died in a similar manner, but under more prolonged conditions of suffering, last year, when only two years old ; and a second case occurring in the same batch of

pups aroused the suspicion of some hereditary disease lurking in the system of the two victims to have caused identical results in both—death.

Post-mortem examination showed the following:—General hyperæmia of the endocardium lining both cavities of the left side, with scattered points of extravasation. Inflammatory softening of the mitral valves, and rupture of the tendinous cords. A patch of extravasation under the endocardium in the right auricle of the size of a shilling-piece.

Later on, another case was brought to my notice in a spaniel dog, three years old, suffering from debility brought on by too frequent coition, which he was noticed to have indulged in during the previous week. As he was the property of an officer in the same battery with myself, and being a well-bred dog, we were anxious to do our best for him. I did not at the time suspect Heart Disease. Prescribed some Tinct. ferri-perchlor., and ordered plenty of milk and bread, with Liebig's soup as a nutritive diet. On the following morning, I saw him breathing with great difficulty, with his sternum and chin to the ground. I was about injecting some ammonia, conveniently diluted, up the rectum, when he fell on his side and died almost instantaneously.

Post-mortem examination showed patches of extravasation under the endocardium lining both auricles and the left ventricle; fibrous vegetations on the mitral valves, which were themselves thickened and presenting numerous points of degeneration on their surface, from softening of the inflammatory exudate. Lungs congested; the condition of the vessels normal. The meninges of the cord slightly injected, especially about the lumbar portion. No other lesions of importance were noticed. No "family history" could be made to account for the disease of the heart.

II.—*Endocarditis in the Horse.*

On the 29th of last month, I proceeded to castrate a country-bred horse—one of a batch of horses I have castrated this year—seven years old, with the result that he died before the cord was fairly divided. On making a *post-mortem* examination, I found disease of the heart, hæmorrhage under the endocardium

of the left ventricle, below the valves, which accounted for the sudden death having taken place. The animal was noticed to have struggled a good deal before he was properly secured in the hobbles when down, otherwise he died so calmly that none knew of it until I directed attention to his head on discovering there was no response made to the application of the hot iron on the exposed cord, which was abnormally thick, otherwise free from adhesions. Going to the head of my animal at once showed me that my suspicions were not altogether unfounded, for he was really dead.

It is remarkable to note in this case that the valves and the auricles did not participate in the disease, but were entirely free from it, probably because the morbid condition found to exist was of not long duration, which is unusual to detect until a later stage when more important changes have been developed. The patch of extravasation, which was distinctly under the endocardium, and situated close up to the auriculo-ventricular opening, was found to be no larger than a five-shilling-piece. The heart weighed a little over nine pounds. There was no disease of the vessels or other important organs.

SOLUTION OF BROMIDE OF ARSENIC.

BY J. DOWLING ALLMAN, PHARMACIST, LONDON.

THIS substance, which is not officinal, I introduced to the notice of the veterinary profession some months since, as a tonic and alterative. Arsenic and its preparations have been employed from time immemorial by practitioners in medicine, to affect certain diseases most intimately connected with the process of nutrition ; hence the term alterative, simply because, when administered internally, medicines which are classed under this head alter morbid processes. Various opinions have been offered, and speculation has been rife as to the mode and manner in which alteratives affect the body. Their action may be silent and imperceptible, but their therapeutic value is amongst the most accepted of clinical facts ; and what we know of the action of these drugs at present is sufficient to justify us in saying that they

modify the processes of the body, and decidedly alter nutrition, by affecting the functions of the blood-making organs, hence the term "purifying the blood."

Now I have abundant proof of the value of this new preparation, solution of bromide of arsenic, as an alterative and tonic, and judging from clinical facts, it is likely to become a favourite remedy in veterinary science, chiefly as an alterative and tonic. The rules which I laid down for the administration of the drug, seem to be correct in their practical effect : *id est*, by giving small and increasing doses all the constitutional and therapeutic action of arsenic is obtained, and the evil consequences of giving large and unscientific doses of so powerful an agent are avoided, such as gastric irritation, loss of appetite, abdominal pain or uneasiness, and other sympathetic mischief. The diseases for which the drug can be employed in veterinary practice can be summed up in very few words ; principally among these, it can be placed at the head of the list in the treatment of many cutaneous maladies. To say that it will cure every case of skin disease would be an assertion too rash and meaningless, and of no practical or theoretical value whatever ; but that it is a remedy of intrinsic worth in many obstinate cases is a proven fact, and a fact which is verified from clinical observation by some eminent men. The influence of the solution of bromide of arsenic is peculiarly manifested upon the rete and epidermis, and can thus be employed with characteristic effect in those classes of diseases affecting the superficial parts of the skin. The visible action of the preparation may be slow, weeks and months being necessary to produce the desired result. Improvement once obtained, it is advisable to continue the exhibition of it for some weeks after all apparent symptoms have disappeared. The bromide of arsenic can also be used with very conspicuous effect in certain nervous diseases. It is especially in Chorea that it has acquired a very high reputation. Dr. Sawyer, of Birmingham, has published some elaborate clinical reports regarding the value of arsenic in the treatment of Chorea, proving that some of the most intractable cases were amenable to its influence. The solution of bromide of arsenic has been used with considerable success by some eminent veterinarians in many of the nervous diseases peculiar to horses and

dogs. It should prove to be an invaluable medicine for hunters, especially in the change of seasons, acting chiefly as a tonic and alterative, by improving the condition and giving tone to the system. Each fluid ounce of the preparation contains four grains of pure arsenious acid and nine grains of bromine. The dose for horses is one drachm, gradually increased to two ounces, given twice daily with the food, or immediately after a meal. Administered in this manner, it becomes better assimilated with the food in the stomach; consequently its physiological action is more enhanced. The dose for dogs is five minims, gradually increased to twenty minims.

IMPERFORATE ANUS.

BY JOHN ROBERTS, M.R.C.V.S., CHIPPENHAM.

AN instance of "imperforate anus" some time since came under my notice, which I consider peculiarly interesting from the fact that the unfortunate subject—a male pig—lived for no less a period than *six weeks and one day* after birth.

During life the owner had thought the pig was suffering from "Dropsy," and as I happened to be on the premises just when it died, I was casually asked to look at the carcase, with the object of verifying the owner's diagnosis. On examining it I discovered the abnormality mentioned, it not having been suspected previously. There was not even the semblance of an anus, the common integument being continued quite over where it should have been, a slight prominence of the *raphè perinei* at this point being the only noticeable feature. The animal had been feeding from the trough for at least a fortnight prior to death; and it only began to swell when about three weeks old, this gradually increasing until death took place. The animal fed to the last, and had never been observed to strain. There were no inflammatory appearances presented on *post-mortem*, but the bowels—small and large—were immensely voluminous for a pig of such an age and size. Ascites was absent. The coats of the intestines were exceedingly thin, almost transparent, and the contents semi-fluid. The rectum was sacculated. The tissues generally were

very anæmic, the heart being particularly small and pallid. The immediate cause of death was doubtless syncope of this organ, from diaphragmatic pressure.

Cases of anal atresia are by no means rare, but it is seldom that an animal with such a malformation is allowed to live without something being done to remedy the defect; hence the physiological value of the above case, which must be my only excuse for recording it.

CHOREA IN A GOAT.

BY J. A. NUNN, M.R.C.V.S., ARMY VETERINARY DEPARTMENT,
LAHORE.

I SEND an account of a singular case of "Chorea" in a goat that lately came under my notice. The subject was a female goat, about four years old, the property of an officer, to whom it was given, when a few days old, by a native as a curiosity. The animal stands in a perfectly natural manner, but on trying to walk, two or three convulsive movements are first made by the hind limbs, and then the hind quarters are thrown up and the legs flexed in the manner shown in the drawing. The animal



walks altogether on its fore legs with surprising facility, I myself having seen it go for more than 300 yards without stopping. During the time it is in motion, the hind limbs move spasmodically but rhythmically with the fore ones, but on stopping are brought to the ground with some considerable force. The animal had a

kid a few weeks old at foot when I saw it, which was perfectly healthy, the dam being a very good milker. I enclose a rough sketch, in which I have endeavoured to depict the appearance of the goat when walking.

[This would appear to be a rather remarkable case of the disease described in Fleming's "Veterinary Obstetrics" as Parturient Eclampsia. It would be interesting to learn if the symptoms disappeared when the kid was weaned.]

EPIZOÖTIC CHOREA IN RETRIEVER PUPS.

BY WILLIAM J. WELSBY, M.R.C.V.S., LIVERPOOL.

AS an illustration of the mimic instinct, as a producer of Chorea, I beg to record the following in the VETERINARY JOURNAL:—

A retriever bitch, the property of a gentleman in this neighbourhood, had a litter of eight pups; they all had Distemper about the same time, one with pulmonary complication, which died, and one, a bitch pup, was about the same time affected with St. Vitus' Dance.

As the place in which they were housed was rather small, I had four of them removed to another compartment; thus leaving three pups with the one suffering from Chorea.

I visited my patient two days afterwards, and found the three pups, with the one mentioned, all suffering from Chorea. I then had them further separated, leaving one pup with the one first affected, and placing the other two each separate. At the end of a week the pair were both dead, and soon afterwards the severally separated two recovered.

The treatment pursued was that which I have before found very successful, and consisted in the administration of \mathcal{R} . Quin. disulph.; Pulv. ferri. sulph., aa gr. i.; Pulv. potas. bromid., grs. v.; Ext. gentian., 9 s.; \mathfrak{m} . ft. pil. i.; Cujus. cap. i., ter. in die.

In conclusion, I may state they were all bitch pups affected, and that on *post-mortem* examination of the two fatal cases there was no appreciable lesion of the brain or spinal cord.

PURPURA HÆMORRHAGICA AND TETANUS.

BY JOHN J. DOYLE, M.R.C.V.S., ENNISCORTHY, IRELAND.

AS the results attending the treatment of Purpura Hæmorrhagica are not, as a rule, satisfactory, it may not be uninteresting should I trespass on the columns of your estimable Journal in recording the history of the last case of that terrible affection which came under my notice. On the 4th October last I was requested to go see, in all haste, a fine mare, the property of a respectable farmer, about five miles distant from Enniscorthy. Though up to eleven or twelve years old, the animal was much prized as an excellent brood mare. She was also of a very free and kind nature, of which advantage was oftentimes taken, as the owner admitted to having frequently overworked her, when under pressure of very high feeding. On my arrival I found the animal manifesting all the symptoms of violent intestinal pain; the bowels were costive, pulse quick and full, mucous membranes injected, temperature and respiration in abeyance. There was also a profuse flow of saliva from the mouth, and unusual nervous perturbation.

I treated as follows:—Tinct. opii, ℥iiss; Spt. æth. nit., ℥iiss; camph., ʒj; chloral, ʒiij; Ol. lini., oj; the same, with the exception of the linseed oil, to be repeated in the course of two hours, if the pain were not relieved. No relief was, however, afforded, and as the constipation still continued, I prescribed aloes in solution, ʒj; Opium pulv., ʒj; Tinct. aconit. (F) m. xii. This was given about nine hours after the administration of the first dose. Shortly after the pain subsided, but the bowels still remained obstinate. I then gave calomel and opium pulv., of each ʒij, alternated with ʒij each of carbonate of ammonia, chlorate of potash, and cinchona. I had also recourse to enemas, and in the course of about forty-two hours the bowels responded. For the twelve hours following the animal seemed to be steadily improving, when suddenly swellings made their appearance in the hind limbs and head, which rapidly increased, especially those in the hind limbs. These changes were soon followed by the exudation of bloody serum from the skin, which

left no doubts regarding the nature of the unenviable complication which now presented itself.

Treatment:—When Purpura became established, the treatment chiefly consisted, for the first three days, in the administering of tolerably large and frequently repeated doses of ergot and perchloride of iron, alternated with turpentine and nitric ether. No appreciable effects followed; on the contrary my patient was sinking. The animal was growing much weaker; lassitude and emaciation were extreme, the swellings commenced in the body; extensive sloughing began in the hind limbs, and the breathing was performed with such difficulty as to almost necessitate tracheotomy. I now gave ergot in conjunction with iodide of iron and cinchona, alternated with carbonate of ammonia and chlorate of potash; and to the hind limbs, externally, I applied a pretty strong solution of chloride of zinc, with a little tincture of arnica. A plentiful supply of milk, eggs, ale, and brandy, were the agents used to support the system. On my next visit, which was on the 13th, I was agreeably surprised to find that the condition of my patient exceeded my most sanguine expectations. The swellings had almost disappeared from the hind limbs and body, breathing was performed with ease, and the animal had assumed a lively appearance. She also evinced a desire for food, which was, according to my directions, sparingly given; and everything bid fair towards recovery. During the convalescent stages I gave internally sulphate of iron, arsenic, cantharides, and nux vomica in average doses, and instead of the chloride of zinc lotion externally, I applied to the sloughing surfaces a liniment composed of creosote, tincture of arnica, turpentine, and linseed oil, which seemed to have a very good effect. For the next ten days or a fortnight the animal thrived apace, and made a complete recovery. Not long since I saw the mare in excellent health, and the owner then informed me that for the last six years she had not been in such condition and spirit, nor better able to perform her work.

I shall now, with your permission, narrate briefly the results of three cases of Idiopathic Tetanus, which I recently treated. Excepting that the jaws were not *completely* locked, the symp-

toms in each case were those presented in an aggravated form of the disease. The treatment I adopted was a teaspoonful of the nitrate of amyl every eight hours on a half pint of gruel, which had, in those particular cases, a magical effect in counteracting the muscular contraction. When nervous excitement was great I gave chloral and camphor, and directed that the animal should have perfect quiet. After the lapse of eight or ten days, each of my patients could partake of a mash tolerably freely. When improvement became still more pronounced, I alternated the nitrate of amyl with hydrocyanic acid, which was given in conjunction with tincture of nux vomica. Under this course of treatment the three animals recovered.

INVESTIGATIONS AND OBSERVATIONS ON ANTHRAX AND OTHER DISEASES, MADE IN MARCH AND APRIL, 1883, IN THE DISTRICT OF SIALKOTE, PUNJAB, INDIA.

BY OFFICIATING INSPECTING VETERINARY SURGEON (2ND CIRCLE, BENGAL) RICHARD POYSER, F.R.C.V.S., A.V.D.

THE following report, I trust, will be considered of sufficient importance to publish *in extenso*, though slightly revised from the original :—

Sialkote, 7th April, 1883.

SIR,—I have the honour to report the completion of a veterinary inspection of those villages within a radius of from seven to nine and a half miles of Sialkote, from which grass is likely to be brought into cantonments, with the view of ascertaining whether Anthrax did or did not exist, and beg to submit the results of my investigations thereon, amplified by observations relative to Anthrax and other diseases which carry off thousands of animals annually in this and other districts.

This investigation originated in an extract from the Principal Veterinary Surgeons' (in India) report made at the conclusion of his annual inspection in January last, who was of opinion that "much valuable information as to the existence of Anthrax amongst cattle in the surrounding villages might be obtained,

. . . and prove of the greatest importance in obviating possible contagion by enabling the taking of measures to prevent grass-cutters bringing grass from the infected neighbourhood." I was therefore deputed to make the investigation, the military and civil authorities promising energetic co-operation.

The course pursued was to personally visit the villages, and with the joint assistance of Tehsildar, Deputy Inspector of Police, zaildars, lumbadars, putwarries, and zemindars, to inquire into the exact number and condition of all animals belonging to each village ; to ascertain the diseases from which they had suffered and died since the 1st April, 1882, up to date ; to define, if possible, the exact nature of the diseases described, when most prevalent, how originated or acquired, how long in operation ; what was known, or done, in the way of treatment or to bring about suppression, and to prevent extension ; how the carcasses and hides were disposed of ; to ascertain whether diseases of any kind then existed ; to inspect the healthy first, so far as was practicable, and then the affected ; to advise curative and preventive measures ; to make *post-mortem* examinations of all fresh carcasses ; and to afford instruction on any subject that suggested itself at the moment, especially as to the disposal of animals dying from Anthrax, Rinderpest, and Foot-and-mouth Disease.

A special point was to inquire whether grass-cutters visited each village and its neighbourhood, and at what seasons ; and to look about the country traversed, to note and examine those parts which grass-cutters were seen to frequent.

As to the quality of the information elicited, it is approximately accurate. Natives are highly suspicious of such inquiries, and evade the truth, though quite ignorant as to why they should adopt this course.

It is probable that the numbers were under, rather than over-rated, where no means of checking existed, as in the case of deaths ; even with regard to the numbers of animals present it was so, a circumstance suspected, and detected by herding and counting.

Towards the close of my inspection, the lumbadars had acquired the habit of stating that carcasses and hides were buried, though dozens of dried skeletons were to be seen on the

outskirts of villages, and in the deep nullahs intersecting the country, and it is well known that the hides are always removed and generally sold.

The totals of each class of animal owned by the villages inspected, and the numbers of deaths in each class, are massed from details which are not necessary for this report. *Vide* Abstract A. The different diseases, and the months in which deaths occurred, are enumerated in Abstract B.

Anthrax has, within the last year, visited upwards of one-third of the villages inspected, and it is not improbable that a like average obtains throughout the district. I should say the mortality for the past year was decidedly low.

Though I did not see a single case of Anthrax, I conclude that the whole area has been, and is, infected ; for, according to the most advanced knowledge on the subject, one, two, or three years' freedom from the disease does not destroy its power of evolution and development where it has once existed. The germs of Anthrax infection may lie dormant in the earth, or in its produce (so Pasteur says, but no one has demonstrated this in India yet), for an indefinite period, and spring into activity when incepted on the infected spot itself, or when conveyed from it in the herbage and earth by grass-cutters to animals at a distance ; and this is, perhaps, the way in which to account for the periodical appearance of Anthrax amongst the horses in the Sialkote cantonment, in an enzoötic or a sporadic form. I have, however, no local data to prove these statements to be indisputable.

The Principal Veterinary Surgeon's suggestion, that infected villages should be avoided by the cutters and carriers-in of troop horses' grass forage, was wisely made, and in the belief that the special cause was brought in with herbage and soil which had been infected by Anthrax virus ; but, whilst I have no reasons for not concurring in this belief, I must regard it as impracticable to trace and demonstrate the connective influence in operation between the Anthrax of the village cattle and that of the Sialkote troop or private horses, without direct experiment.

We cannot hope to meet with an accidental proof that Pasteur's discovery is correct in this instance, though useful

evidence might be counted on by prohibiting all grass supply from the villages and their surroundings, and enforcing the constant use of forage grown only on selected (and of course uninfected, if such could possibly be guaranteed) sites.

Arrangements have been commenced to put Pasteur's experimental deductions to the test, by feeding a horse and a pony upon a green cereal (and grass) crop plucked up fresh from the surfaces of graves containing a number of anthracoid carcasses. The wheat and barley crop is here exceedingly strong and healthy; five interments took place in May, 1881, and a large number of others at various periods before and since, about the same site. The two trial subjects are picketed on the sunken surfaces of two other graves, some distance from the crop, containing two horses which had died from Anthrax in April, 1882. The result of this experiment will be afterwards reported.

We have little or no control over the movements of the men who supply our troop horses with grass: they go no farther out than is necessary to obtain the amount required. During the rainy season when grass is abundant everywhere, they visit, almost without exception, every village within the range of my inspection, and very many more.

In the cold, and very hot, dry season, when the grass is scarce, but few of the grass-cutters visit the villages and fields, though I have seen them "cheeling" (shaving below the soil's surface) grass in the filthiest of deserted enclosures on the village skirts, and from the verdant patches further away, where growth had been encouraged by the fluids and ingesta of diseased cattle which had died, or been dragged there after death, to be eaten by carrion animals.

The regimental double grass-cutters* generally proceed in bodies, at these seasons of scarcity, to the banks of the Chenab, north-easterly through Chuprah, or north-westerly through Kooloowall, or through Kotli-Loharun to the marshy lands beyond.

Single grass-cutters, such as are generally employed by private

* A double grass-cutter is a man with a pony, which carries in the quantity he cuts for two horses. A single grass-cutter is the man who carries in the quantity he cuts for one horse.

individuals, "cheel" about everywhere, on the edge of nullahs, between fields, on village roads, on the margins of stagnant pools; a green blade from any spot is acceptable to them; and I have actually seen men removing grass by its roots for transplanting, and "cheeling" for forage, on the very edges of Anthrax graves.

It is, however, the exception to see Anthrax in horses belonging to private owners, yet two fatal cases occurred here in officers' ponies about the time of the last epizootic, and two grass-cutters' ponies and a police officer's horse succumbed to it as sporadic cases.

Whenever Anthrax has occurred in troop or private horses at Sialkote or elsewhere, I have never been able to trace its origin, define its mode of access, to say why one horse is infected here and another twenty yards off in the same line, and perhaps a third in another troop; or to discover why it suddenly or otherwise ceases. But it invariably happens that one troop only out of the six is infected, a fact tending to show that the cause has a sort of troop origin, though this could never be demonstrated. Supposing this particular troop's grass-cutters brought in the infection, I could get no clue as to the time of its introduction, nor as to the precise place whence it was obtained.

Beyond being cognisant of the facts that Anthrax poison had been incepted, and that the result would be fatal, the rest has always been shrouded in hypothesis, so far as my experience in India is concerned. *Vide* Sir M. Biddulph's remarks.

These grave confessions inform us that the cause must be practically recognised and manipulated . . . before we can hope to intercept its influence.

As regards the recurrence of outbreaks of Anthrax, I am of opinion that the poison is incepted simultaneously by those affected or nearly so, that is, in batches, but there have been many instances where this could not possibly have been.

Treatment is as yet empirical, and in the main, valueless. The means adopted to control or prevent extension, do, it is true, turn out successful in the long run, but are, like the treatment, empirical; excepting that they are not at variance with the *general* laws of sanitation, there is no actually recognised

relation between the cause and its nature, with the particular measures employed to avert inception between one outbreak and another.

Isolation of the diseased, segregation of the healthy, and similar simple sanitary precautions, are the chief agents at our command, yet without their influence outbreaks have ceased. But it is imprudent not to adopt measures which experience pronounces to be of some value, and easily and economically attained. This is mentioned, because objections exist in known quarters, against clearing out of infected lines on the outbreak of Anthrax.

Whatever may have been the origin of Anthrax in Sialkote, it is quite certain (supposing M. Pasteur's theory concerning the germs of Anthrax, their development, etc., be correct) that for very many years past—indeed, until I instituted cremation (at my own expense at first) in September and October, 1882, Anthrax has been steadily cultivated and propagated in and about the cantonments by the burial system of disposing of anthracoid carcasses (equine).

It is quite impossible to say what parts are not in this way infected. Since my residence here a large number of Anthrax carcasses have been buried in and about some old brick mounds, midway between the north road and the village of Bhurruth, abutting on the cavalry parade ground, and not far from the 6th Dragoon Guards infirmary and lines. Over these graves a heavy cereal crop is growing. After harvesting, these places will be grazed over by cattle from Bhurruth and the adjoining villages of Churani and Bhoth, from which my notes furnish the following :—

No.	ANIMALS.	MONTH.	DISEASE.	VILLAGES.
6	Oxen	January	} Anthrax	Bhurruth
6	Oxen	February ...		Chukrani
I	Cow	January		Bhoth
I	Ox	February ...		
I	Buffalo (female)	March		
4	Cows	September ...	} Rinderpest	Bhurruth
4	Buffalo (male)	September ...		Bhoth
I	Cow	January		

(To be continued.)

PARTURIENT APOPLEXY IN CATTLE, COMMONLY KNOWN AS "MILK FEVER."

BY J. H. COX, M.R.C.V.S., ARMY VETERINARY DEPARTMENT,
5TH DRAGOON GUARDS.

(Continued from page 21.)

In the selection of stimulants, some prefer one class, as brandy, whisky, etc., whilst others have a weakness for Spt. Æth. Nit., Spt. Ammon. Co., etc. It matters not, in my opinion, which is given, so long as the action is kept up; but I should always recommend the addition of Spt. Ammon. Co., as it tends to correct any tympany arising from the evolution of gas in the stomach, besides being antagonistic to the formation of fibroid deposits. The danger in administering all remedies, owing to the power of deglutition being in abeyance, should, if necessary, be met by the use of the stomach-pump.

The position of the animal demands constant attention: in every case it must be placed on the "belly." This attitude is retained by bundles of straw or sacks filled with hay, and so adjusted as to prevent the patient drifting on to its side. The head must be bolstered up and kept somewhat extended, care being taken that nothing interferes with respiration. The recuperative power of pure air being essential, provision should be made for a proper supply. Every six or eight hours the posture should be changed, always remembering that the *near or milking side is the most comfortable*. The bladder should at intervals be relieved of its contents, the secretion of milk encouraged by stripping the udder.

Crushed ice to the back of the head or poll is a useful adjunct to treatment. If not procurable, cold irrigation or cloths immersed in cold water should form a substitute.

The attack varies in its duration from twelve to forty-eight hours, or even longer. When it extends over the latter time it becomes more serious in its nature, as the lesions which have occurred are difficult to repair. *Pneumonic complications* are to be dreaded: the relief afforded by the vagaries of the thrombi is to be viewed with suspicion. The symptoms certainly seem for a time to lose the gravity which characterized them at the onset,

but they are none the less dangerous. This *Pulmonary Apoplexy* must be met by diffusible stimulants of a nature calculated, by acting as fibrin solvents, to relieve blood pressure, the most useful being Liq. Ammon. Acetat. et Ammon. Carb. At this stage it will be necessary to abandon the "general" for the "chest pack," which is applied as follows: Two pieces of spongio-piline of sufficient dimensions to cover the external aspect of the lungs should be immersed in hot water. Having wrung out the superfluous fluid by means of a covering dry cloth applied with rotatory pressure, sprinkle on some Ol. Tereb., and apply immediately to the walls of the chest. Two small connecting straps across the withers will hold it in position. To manipulate this pack properly requires that the operators (at least two) should be somewhat expert. The points to observe are the obtainment of a large amount of heat with just the required amount of moisture. If too wet, the water will gravitate and form a pool under or about the patient. This, I need scarcely add, renders the animal uncomfortable, and militates against the success of the treatment. Once fixed, the spongio-piline must be covered immediately by ordinary rugs, etc. Its renewal should take place about every four hours, the Ol. Tereb. to be discontinued after the second application. We may at this juncture call upon the bowels and kidneys to exercise their influence in assisting nature to combat this new feature. The sympathy existent between all mucous membranes will not admit of a drastic purgative being given, but no harm will result from an occasional dose of Ol. Lini.; whilst frequent doses of Potass. nit. will operate upon the kidneys, and so, in a manner, form a counterpoise to what is going on in the lungs.

If the pulmonary congestion is not soon relieved, it runs on to what is designated *Secondary Pneumonia*. Under ordinary circumstances this complication is difficult to overcome, but more so when it is the sequel to Parturient Apoplexy. Should the respiration be very distressed and the accompanying symptoms of an urgent nature, relief will often be obtained by the subcutaneous injection of atropine 25M every twenty-four hours. More, however, will depend upon good nursing to enable the animal to throw off the disease.

Another sequel is that of *Motor Paralysis* of the hind extremities, lasting from three days to a month or longer. Various devices have been employed to overcome this, as electricity, blisters along the course of the spine, pitch charges, fresh sheep-skins, and, lastly, the cowleech's old remedy for "worm in the tail." In every case time must be allowed for the repair of tissue. If the result of passive congestion of the vessels in connection with the motor portion of the spinal nerves, it is not difficult to eradicate; but if it is the outcome of serous effusion or hæmorrhage success is not so certain. The latter condition is fortunately seldom witnessed. As a rule, the circulation gradually resumes its normal condition, and little by little strength is gained, until at length the patient is enabled to use its legs. This may be hastened by the application of strong ammoniacal liniment, or mustard embrocations, or even blisters along the vertebral column. Some practitioners give *Nux vomica* or its alkaloid strychnia, but I do not see much benefit to be derived from them, as the disease is not neuropathic in its origin. Electricity is useful by indirectly increasing the circulation. More can be done by husbanding the strength through good nursing, attention to hygiene, keeping the organs of the body in proper working order.

Although "slings" are not to be advocated in the treatment of ruminantia, on account of the ponderous nature of their stomachs, they may be used in these cases for the specified object of enabling the patient to regain its legs. Animals—especially the bovine species—after being recumbent some time, seem to lose heart and will not make an effort to rouse themselves. Slings in a case like this are useful, if only to fix the animal in a standing position, and imbue it with that will which it is only necessary to exercise to succeed. A few rehearsals of this nature will restore vigour to the hind quarters. I have in one or two instances, where the paralysis was somewhat protracted, seen very good results accrue from this practice. With the old-fashioned slings this process was not easily accomplished, but with the new ones invented by Messrs. Arnold and Sons, it should be simplicity itself.

The yelpings of a dog will often excite the patient to such a

degree that the muscles of the loins and quarters are brought into play, and the animal almost unconsciously raises itself. A conflagration in close proximity has also been known to have the same effect. The stentorian sounds emanating from the throat of the burly cowman will, when emitted adjacent to the ear of the patient, sometimes produce signal results in this particular. These adjuncts are useful only where it is palpably demonstrated that "resignation to the inevitable" has taken the place of disease.

Post-mortem appearances.

These do not always afford that information the violence of the symptoms during life would lead us to expect. They oftener require the practised eye of those versed in morbid anatomy to unravel their mysterious significations. The autoptical lesions from one class of observers claim but passing notice, whilst with others they possess typical representations of the most aggravated forms of disease. The pathologist in pursuance of his investigations finds metamorphoses sufficiently developed to account for the phenomena during life. Foremost come those connected with the cerebro-spinal system. Here we have proof that the train of symptoms, analogous almost in every case, derive their seat of ingestion from these centres. The capillaries and sinuses are engorged with blood, and the pressure exercised by this means initiates that paralysis which is often destined to become the dissolution of the patient. In some cases small blood spots are observed on the surface and integral portions of these moto-sensory organs. These spots are due to the escape of fluid from the vessels, either by direct rupture of, or exudation through, their walls. When serous effusion is recognised, it is attributable to attempts on the part of the vessels to relieve themselves by getting rid of the watery portions of the blood.

In turning our attention to the organ of reproduction, we find that involution of the uterus is incomplete. It cannot be expected that the recoiling upon itself should be accomplished with momentary rapidity, but upon its being quickly performed constitutes immunity from attack. In some instances there is an evident want of tone in its walls, which brings into greater prominence the uterine vessels.

Following out the sequel of blood pressure, we occasionally find small blood-prints on the endocardium.

The lungs will be comparatively free from disease should death occur before pulmonary complications arise. At the same time, the ramifications of the vessels will always exhibit a congestive tendency. Speaking generally, the blood will be found darker in colour, owing to its respiratory or oxygenating function not having been properly fulfilled. Should the patient have sufficient vitality to pass the comatose stage, but still in the long run succumb, the pulmonary registrations will then be more conclusive. The evidences in these cases apply more to the forms of Pneumonia. As this is somewhat foreign to our subject, except as a passing allusion, I shall not trouble my readers with details.

Prophylactic measures.

I have long held the opinion that Parturient Apoplexy ought to be of the rarest occurrence. Were we dealing with some subtle influence similar to that at work in contagious diseases, our efforts to check its progress might prove futile ; but we have not this contingency to face. The factors in production do not go stalking abroad seeking for fit subjects on which they can fasten their evil propensities, but are confined to the limited area of the farmyard. The present high state of domesticity to which our cattle are subjected has no definite line of demarcation. Such being the case, we have to deal with a condition of things which, although living emblems of manipulative dexterity, are equally antagonistic to health. Stock exhibitions engender a feeling of rivalry amongst the many claimants for honours in this particular ; but the good which emanates from this striving for superiority is mingled with a certain amount of danger. This high pressure, when persistently applied to any organisation, be it living or not, must pay its penalty ; and in stock-breeding we have no lack of material on which operators can exercise their ingenuity. It is refreshing to witness that, in some quarters, a reaction is taking place in this respect, and that men can be found possessing sufficient courage to decry this forced system of raising stock. The colossal representations of hypertrophied adipose tissue, as witnessed at our stock exhibitions, speak

volumes for the skill brought to bear in production ; but whether this development, which some call morbid, will ultimately be beneficial is a question open to serious doubt. We cannot deny that some of our cattle are in a chronic state of disease from being over-fed ; and it is just possible, as like begets like, that the conditions thus generated are transmitted from sire or dam to progeny.

If it be true that hereditary taint enters the list of predisponents, it is our duty to guard against the introduction of a breed which possesses this unwelcome feature. This, I take it, forms the first link in the chain of preventive remedies.

Where any predisposition is evidenced the greatest care should be manifested in the treatment generally. Holding premier place comes that of feeding. From the time the cow "runs dry" the diet should be plentiful, but sparingly nutritious. No greater error can be committed than cramming pregnant animals with highly nitrogenous and carbonaceous food. It is not found, as a rule, that the offspring is any the better for it ; on the contrary, it is often puny in its dimensions. The time to give nutritious food is when recovery from parturition has become finally established, and when the drain on the system consequent on the supply of milk is being felt. I do not advocate the extreme of "starving," which I have occasionally seen adopted. A uniformity in feeding should be inaugurated when the cow ceases to yield milk, and adhered to without deviation until the period of danger is passed ; under these circumstances plethora will seldom find birth. It is noticeable that some animals become affected even when lean in appearance, and although dietetic arrangements have been observed with scrupulous precision. In cases of this nature we must cast about for other causes. These, it may be, do not always appear on the surface, but are buried in obscurity, which only the most observant of men can discover. Occasionally they are so occult that no assignable reasons can be formulated. We can then only ask ourselves whether the laws of nature have been faithfully obeyed ; whether the animal has been subjected to any of the many forms of external violence calculated to bring about systemic disturbance, or whether disease, especially that resulting in organic

change had pre-existence. The due observance of any one of these conditions should enter the list of prophylactic measures.

I know of no better preventive of Parturient Apoplexy than that which results from a judicious amount of exercise. Just for a moment let us consider the artificial state to which our bovine tribe is reduced in this respect. In summer-time Nature's precepts are adhered to, and the cow is allowed to roam about in search of food, and the very fact of having to do this tends to keep it in a state of health and condition. During the winter season, unless it happens to be exceptionally mild, countless herds are tied up by the neck, and are allowed that amount of exercise which a walk to and from the watering-trough affords. In no other tribe is the same arbitrary rule exacted. The mare is granted its freedom, and in many instances performs its usual duties to within a short time of foaling. In sheep, dogs, and pigs the same argument applies, with exception of the latter, but even the pig has a certain amount of ground area on which it can disport itself. The cow stands alone as the recipient of this unnatural treatment. In the higher order of mechanism—the human subject—exercise is often enforced in order to avert the dangers so closely connected with this period of life. A sedentary existence in all animals unfits them to do battle with disease, and at no time is it of such paramount importance as during the latter stages of utero-gestation. It will be remembered that the muscular tissue plays a prominent part in this process ; its proper development, and being able by its tonicity to exercise the functions ascribed to it, renders the act of labour much easier than it would otherwise be. The foetus is expelled with greater freedom and rapidity, and the pre-conception state, including the contraction of the uterus, is more readily resumed. Exercise has other advantages : by exciting the organs of the body to the performance of their functions we promote the elimination of waste products, and by thus improving the condition of the blood, and hence the health of the animal, we reduce the susceptibility to disease.

Judicious feeding and exercise will then in many instances ward off an attack of this disease. If these have been neglected, or in spite of their observance, danger is still apprehended, it

behoves us to adopt other remedies. I remember the time when blood-letting was commonly had recourse to as a preventive measure. There are practitioners at the present time who ignore the ideas advanced by the new school of veterinarians, and still pursue this course as a prophylactic. I think, however, we have arrived at a time when the blood-stick and phleme can be dispensed with. If venesection is indicated, consideration must be had for the foetus in embryo, or the shock generated might have a pernicious influence on its well-being.

The old adage, "a stitch in time," is often exemplified by the timely administration of a few well-chosen but simple remedies; and no better can be found than those known to most stock-keepers, as follows:—Magnesium sulphate, 1 lb.; Ginger pulv., 1 lb.; Gentian pulv., 1 lb. This "drink" should be given three weeks before calving, and repeated every seven days until this period is passed. Potass nitrate, ʒi. occasionally in a pint of water is also useful. In Ammonia carb. we possess an agent as a prophylactic; a few doses of two drams each will exercise its antagonism to the undue formation of fibrin, and so lessen the tendency to thrombi.

The secretion of milk should be encouraged by *shampooing* the udder, and occasionally withdrawing its contents. We now approach the critical time, *i.e.*, after the birth of the calf. At this juncture we must act with the greatest promptitude or the disease may steal a march upon us. The saline aperient should be repeated, and with it the pulvis ergotæ recommended by Mr. B. The womb should be cleansed with the solution before suggested, and repeated every six hours. If the act of calving be protracted, and the patient evinces symptoms of distress, a diffusible stimulant as Spt. æth. nit. or brandy will help to restore vigour to the system. The diet should be succulent, as gruel, bran mashes, etc., but in sufficient quantities only to satisfy the cravings of the stomach. If a repetition of the aperient *cum pulvis ergotæ* be deemed expedient, no time should be lost in having recourse to it. The action of the skin, especially in inclement weather, should be encouraged by the addition of rugs to the body, and friction followed by hay or woollen bandages to the extremities. Due regard should be paid to ventilation, cleanliness, etc.

Unfortunately, stock-keepers are, as a rule, blind to their own interest, inasmuch as it applies to this particular subject. They are often quite content to leave matters to mere chance ; and if what is termed " luck " happens to smile upon them, there is a self-contentment which portrays the feelings of the inner man. But if Fortune's wand is not thus spread over their domain, they ascribe the ill turn of the tide to anything but the right cause. Parturient Apoplexy forms one disease amongst many others which may, in a great measure, be prevented.

The Flesh of Animals so affected, in its Relation to Human Food.
—Although an important branch of our subject, it may be despatched in a few brief remarks. When the flesh of an animal thus affected becomes unfit for consumption, it is often rendered so by human agency. If the disease is allowed to run its course unmolested, it, unless it be of a protracted nature, develops nothing antagonistic to the health of human beings. We are not dealing with an affection having for its propagation septic properties, but with one which emanates from the ordinary conditions of life. Sanitary statutes, however, provide a limit by which flesh of this kind shall form food for the community. Beyond this point it becomes penal, both by natural laws and those enacted by the legislature, to dispose of such meat. If the animal succumbs to the disease or be slaughtered before structural change takes place, the flesh is perfectly wholesome. But if, on the other hand, disorganization of tissue is set up, or if by the wholesale administration of remedies we impregnate the system with their noxious properties, it is no longer fit as a food commodity. These facts are fully understood by some owners of stock, and should the patient be in marketable condition they prefer immediate slaughter to the risk run in treatment.

There is another sequel to parturition which is generated by septic influence and is known as *Puerperal Fever*, but except that both this disease and Parturient Apoplexy have the same exciting cause *in initio* for their production, there is nothing in common between them. The distinguishing features are so marked, that ignorance cannot be advanced as a plea for the disposal of meat so contaminated. The flesh of an animal suf-

fering from Puerperal Fever is dangerous to a degree, and should never be allowed to find its way into the market.

In bringing these remarks to a close, I must apologise for their length. As an excuse, I can only advance the importance of the subject under consideration.

The question may suggest itself, What percentage of cases recover under this treatment? To this I cannot give a definite answer, as statistics were not kept; but I may state that fatal cases were certainly the exception.

THE INFLUENCE OF HEREDITY AND CONTAGION ON THE PROPAGATION OF TUBERCULOSIS.

(Continued from page 406, vol. xvii.)

Absolutely the same ideas have prevailed, relative to the causes of Contagious Pleuro-pneumonia, at the time when its contagiousness was still a matter for doubt. The marked hygroscopic condition of low-lying countries; damp pastures; bad food; unhealthy stables; over-crowding; feeding on the refuse of breweries, distilleries, and sugar-factories; too rapid fattening; and excessive lactation—all these were looked upon as the essential causes of this malady up to nearly the time when it was at last recognised that its greater frequency in low-lying damp countries, in dairies, distilleries, breweries, and sugar-works, than in elevated countries and breeding farms, is due to the fact that in the first-mentioned regions and habitations the bovine population is being continually renewed, and that the opportunities for the introduction of infected or diseased animals are consequently much more frequent than in stock-raising countries.

The number of cattle attacked with Tuberculosis is considerable, even if we take into account only those sent to the abattoirs—those places where animals are only valuable for the materials their carcasses yield. It is otherwise, however, with the cattle employed in labour, and those for production and reproduction which are traded in. Numerous tuberculous animals are sent to the ordinary fairs and markets, where they come in

contact with healthy cattle. To prove this latter fact, we shall find materials in the statistics of actions-at-law, in the matter of Tuberculosis, recorded during the years 1867 to 1882 as having been entered upon in the Grand Duchy of Baden. The following are the figures :—

YEAR.	Total of Civil Actions on account of Unsoundness.				Total of Civil Actions on account of Tuberculosis.				In 100 Civil Actions, there were on account of Tuberculosis,	
1867	337	...	...	237	...	...	70'3	
1868	348	...	...	247	...	...	71'0	
1869	442	...	...	305	...	...	69'0	
1870	279	...	...	169	...	...	67'0	
1871	418	...	...	293	...	...	69'0	
1872	710	...	...	512	...	...	79'7	
1873	646	...	...	511	...	...	79'1	
1874	486	...	...	368	...	...	75'7	
1875	342	...	...	253	...	...	79'3	
1876	330	...	...	219	...	...	66'0	
1877	505	...	...	395	...	...	78'0	
1878	655	...	...	478	...	...	72'9	
1879	470	...	...	316	...	...	67'2	
1880	238	...	...	155	...	...	69'0	
1881	214	...	...	112	...	...	59'3	
1882	309	...	...	140	...	...	45'3	

Although up to 1879 fifty-five per cent. of the cases of unsoundness had not been established through the intervention of veterinary surgeons, and that since then it has been the same for forty-five per cent. of the cases mentioned, the figures given already prove that a good number of the cattle dealt in and carried about are affected with this disease; and the number must be very much greater when we reflect that all the phthisical cattle do not become the cause of a law-suit.

It is not only in cattle that we meet with this malady; it also attacks other creatures, and of these we place the *pig* in the first line. In this animal we find the lesions of Tuberculosis in or on the serous membranes, as well as in the pulmonary parenchyma (Pulmonary Phthisis), where it assumes the form of small nodosities or caseous infiltration. The lesions of the affection may also, in the pig, become localized in the mucous membrane of the small intestine, as a caseous degeneration; but they are more frequently met with, in this animal, in the lymphatic glands, where they give rise to the formation of soft or caseous centres, of the consistency of mortar, disseminated or deposited

in mass in the tissue. When the malady is more especially localized in the lymphatic glands, it is then known as Scrofula. To judge from what has been stated by the best observers, it is more particularly highly-bred animals—those with fine and abundant connective tissue and small bones—which are attacked with Tuberculosis in the latter form; while the ordinary unimproved breeds are much seldomer affected.

Spinola, Albrecht, Roloff, Schütz, and Semmer have studied this affection in North Germany and Livonia; Bollinger has observed it in Switzerland, Trasbot at Alfort, Mandel in Alsace, and the majority of Badenois veterinary surgeons in the Grand Duchy of Baden. Leisering has noted the presence of the disease in a wild boar in the Zoological Gardens of Dresden; and Göring reports that, in an establishment where there were many tuberculous fowls, he found a score of pigs affected with Scrofula or Pulmonary Phthisis.

In the Grand Duchy of Baden there were killed, during the period between 1874 and 1882, a yearly average of 7,800 pigs, and of these twenty-two were affected with Tuberculosis—a percentage of about 0·2 of all the pigs slaughtered. It must not, however, be concluded from these figures that this disease is very rare among pigs in the Grand Duchy; for in order to be fit for the butcher the pigs ought to be fat, and the number of those which are capable of being fattened when attacked by Tuberculosis is inconsiderable. Those which cannot be fattened are slaughtered clandestinely or sacrificed *in extremis*, and their flesh is generally employed in the manufacture of sausages.

In the report on the sanitary condition of the domesticated animals in Saxony during the year 1881, Baumgärtel describes a typical case of Pulmonary Phthisis observed in a pig. The lungs, as well as the spleen and liver, were full of tubercular nodules, as were also the lymphatic glands. On the costal pleura there were nodules as large as a pea, of the same character as those met with in bovine Tuberculosis. A somewhat numerous list of similar cases may be made from the writings of different veterinary surgeons.

The existence of this disease in the *sheep* is not yet well

established. The description of ovine Tuberculosis in the writings of Hurtrel d'Arboval* does not allow us to decide whether he really had to do with this malady, Distomatosis, or some other chronic affection. The publications of Dupuy, Baron, Delafond, and Lafosse, on Pulmonary Phthisis in the sheep, leave us in doubt as to the nature of the affection alluded to, as well as to the character of the pulmonary nodules, nodosities, and other lesions observed in the course of the disease. According to the researches of Villemin, Röhl, and Damman, sheep are refractory to tubercular inoculation; while Colin and Zürn pretend that, although the majority of their inoculations were without result, they nevertheless sometimes succeeded in communicating the disease to these animals.

Carsten Harms relates the occurrence of Tuberculosis in a goat. In making the autopsy of this animal, he found nodules and vomicæ in the pulmonary parenchyma, the former being of the size of a grain of millet to that of a pea. On the surface of some sections the nodules were grey in colour, moist and shining; while others were dull and had a yellow tint. With regard to the caverns, their dimensions varied from that of a hazel nut to a fowl's egg; their walls were irregular, but smooth on the surface, and a certain number had cords or bands across them. The smallest were completely closed, and contained a grey grumous mass; the largest communicated with the bronchi, and likewise contained a greyish-brown coloured mass, but which was mixed with air.†

We (Lydtin) have met this Phthisis in three goats at Baden-Baden. These animals belonged to a large flock, and were housed with cattle belonging to the same owner. The cattle were often renewed, and here and there amongst them cases of Tuberculosis occurred. The diseased goats gradually became emaciated, and they coughed; the visible mucous membranes and places destitute of hair became pallid; the secretion of milk diminished to such an extent that it was not worth drawing. After death, in all three goats the lesions were confined to the chest. The pulmonary interlobular connective tissue was in-

* Dictionnaire de Méd. Vétérinaire, vol. v., p. 49, Paris, 1839.

† Badische Thierarzt Mittheilungen, 1871, p. 96.

creased, and in the substance of the lungs were found nodules and nodosities; the visceral pleura was, like the parietal, also studded with similar neoplasms, some of which were attached by a long pedicle.

Gerlach reports a doubtful case of miliary Tuberculosis of the lungs, observed in a goat; and Paulicki has noticed Pulmonary Tuberculosis in *deer* and *gazelles* in a zoological garden.*

With regard to the existence of this disease in the *horse*, Gerlach declared that he had only known of four cases of Tuberculosis in this species. The neoplasms found were in the form of fibrous tubercles, and were situated in the lungs and on the pleura; they resembled the pathological products of bovine Tuberculosis.

Professor Gotti reports, in the *Journal of Anatomy of Pisa* (1872), the following cases, which belong to the subject now occupying us. The description of these cases is not sufficiently explicit as to their nature, but it is very interesting, nevertheless; it was republished in German by Müller and Röhl.†

“In opening the carcase of an emaciated horse, there were found on the peritoneum numerous nodosities of various sizes, grey or milky-white in colour, and of a fibrous aspect. Some of these nodosities were directly fixed on this serous tunic, the others were adhering to it by means of filaments of connective tissue. The mesenteric glands were indurated, and all the lymphatic vessels visible. The mediastinum and costal pleuræ were equally covered with nodosities, but these were less abundant than in the chest. One portion of the pulmonary parenchyma presented the lesions of red hepatization, and was full of small purulent foci. Some of the nodosities were hard in their peripheral portions, but softened and transformed into a yellowish mass in their centre. The substance of these nodosities was constituted, according to Gotti, of fusiform cells, giant cells, free nuclei, and a yellow and friable yellow detritus; cretification was rare.”

In another case, Gotti only found the nodosities in the chest and on the urinary organs—especially in the walls of the bladder, in the ureters, and the kidneys. Besides the authors above quoted,

* “Fleischkost des Menschen.” Berlin, 1850.

† “Oesterreich-Vierteljahresschrift für Wissenschaftlich Veterinärkunde.” Vol. xxxix., p. 61.

Tuberculosis has also been noted as existing in the horse by Bruckmuller,* St. Dizier,† Leblanc,‡ Kolb and Hager,§ etc.

Although Dr. Croq,|| then prosector of Anatomy at the University of Brussels and now professor there, speaks of Tuberculosis in the horse, in a work on auscultation and percussion in their application to the diseases of the thoracic organs, we may justifiably inquire whether this was not a case of Glanders.

Certain authors categorically deny the existence of Pulmonary Tuberculosis in the horse.¶

The *rabbit* is, as many experiments prove, very disposed to contract this malady. The nodosities are, in this animal, as a general rule, constituted by a semi-fluid, puriform mass, containing a little caseous matter in suspension; the rapid cretification noticed in the horse in analogous lesions is not met with in the rabbit. This difference in the constitution of the nodosities again proves that the characters of the tubercle neoplasm are dependent upon the nature of the soil in which it is developed, and that its characters differ not only according to the tissue from which it proceeds, but also according to the individuals in which it is developed and the species to which they belong. It therefore follows, that if we are not willing to consider their macroscopic and microscopic characters, we ought to distinguish fibrous and sarcomatous tubercles, and tubercles of man, ox, rabbit, etc.

Among the other animals in which Tuberculosis has been found, though rarely, may be mentioned the *dog* (Göring, Peroncito, Roustan, Ercolani, and Klebs); *cats* (Bollinger and Toussaint); caged *lions* (Gerlach and Hering); *kangaroos* (Paulicki, Schmidt, Peroncito); and especially in *monkeys*, in which, for a very long time, this affection has been noted by physicians and veterinary surgeons.**

* *Ibid*, 1860.

† "Journal de Méd. Vétérinaire," 1864.

‡ "Recueil de Méd. Vétérinaire," 1865.

§ "Der Thierarzt."

|| "Central Zeitung für die gesammte Veterinarmedizin," 1853, p. 157.

¶ Cases of so-called Phthisis pulmonalis in horses are frequently reported in English veterinary literature, but it may reasonably be doubted whether they are not cases of chronic Glanders. In all the cases I have seen in which *miliary tubercles* were found in the lungs, these neoplasms had not the characters of those of Tuberculosis, but rather of Glanders.—G. F.

** It may be questioned whether monkeys die so frequently from Tubercu-

Poultry may also contract the disease, the neoplasms developing more particularly in the pulmonary tissue, liver, ovaries and bones.* Göring found thirty tuberculous fowls in one establish-

ment as is generally supposed. Mr. Sutton points out that in the gardens of the Zoological Society of London, previous to his attendance, it seemed to have been the custom to employ the word tubercle or Tuberculosis in a generic sense, including in the term all such affections as Pneumonia (lobar and lobular), empyema, abscess, caseous glands, and the like. Hence, possibly, the origin of the error regarding the frequency of Tuberculosis. From December 1st, 1881, to March 30th, 1883—an interval of sixteen months—110 quadrumana died, and he personally examined the viscera of ninety-three, with the result of finding tubercle in three only. Two of the cases were Rhesus monkeys from India, and the third a Vervet monkey. The disease, he adds, was unmistakable: tubercular Phthisis associated with cavities in the apices of the lungs, in every point resembling the condition met with in the human subject. There were also three cases of Scrofula.—*Diseases of Monkeys*, VETERINARY JOURNAL, October, 1883, p. 253.—G. F.

* See an article on Tuberculosis in Fowls, by Dr. Ribbert, in the "Deutsche Medizinische Wochenschrift," 1883, VETERINARY JOURNAL, September, 1883, p. 189. At a meeting of the Pathological Society of London, held in November, 1883, Mr. Sutton read, in conjunction with Dr. Heneage Gibbes, a first paper on the so-called "Tuberculosis" in birds. He said his attention was first attracted to this disease in the spring of 1879 by a farmer in the north of Middlesex, who had sent him two dead fowls, stating that disease had broken out among his poultry, and that his stock of birds stood a fair chance of annihilation. By thoroughly destroying the bodies of the dead birds, and killing the sickly ones, the disease seemed to be arrested for a time. In 1881, the disease again made its appearance, and nearly all the offspring of the stock of 1879 died. Ducks and geese were not affected in either epidemic. In the latter part of that year, Mr. Sutton commenced work at the Zoological Gardens, where, in the course of his dissections, he found the disease very prevalent. After spending more than two years in investigating this matter, examining from all sources more than 1,000 birds of various species, he proposed to put the results of his observations before the Society under three headings: (1) The anatomy of the disease; (2) its zoological distribution; (3) the histology of the affected organs. 1. The disease first manifested itself in the alimentary canal in the form of yellowish-white nodules, varying in size from a small pin's head to a mass as large as a chestnut. They projected most into the interior of the bowel, thus causing death by obstruction, or projected on the serous surface, setting up Peritonitis. The liver next became the seat of caseous nodules, equally disseminated throughout its substance, at first very minute, but soon attaining a considerable size. The spleen rarely escaped, frequently being so full of these nodules that the capsule ruptured. The lymphatic glands in the neck were affected in severe cases. The mesentery often contained nodules, due to the collection of the morbid material in the ducts leading to the receptaculum chyli. The kidneys, heart, etc., were rarely the seat of gross lesions. Once a deposit had been met with in the lungs. Death was nearly always caused by the mechanical effects of the nodules in the intestines, producing obstruction or setting up Peritonitis. 2. The birds almost exclusively affected by this disease were those which live on seed, grain, and fruit (by grain is meant barley, maize, oats, etc.) Twice it had occurred in flesh eaters, but no case had been met with in those sub-

ment, and he attributed the contamination in this instance to be spread through the medium of the cock.

Inquiry into the existence of Tuberculosis among the different species of domesticated animals demonstrates a fact worthy of notice, namely, that creatures kept through domesticity in the immediate vicinity of man, or confined in stables, sheds, or cages, are those in which the disease is most frequently encountered. Therefore it is that we find it oftenest in cows and pigs, and especially those of improved breeds which are not allowed to pasture, in the mammalia of zoological gardens, and poultry confined in pens. Animals which live in a state of liberty, or are often allowed to go out in the open air, as horses and sheep, are either seldom affected or are altogether exempt.

Tuberculosis resembles those other infectious maladies which, like it, become readily domiciled, and exercise their ravages in badly-ventilated places where the air stagnates, and where, it

sisting on fish. The struthiones, particularly the rhea (South American ostrich), were very liable to this affection. The birds most liable were common fowl, peacock, grouse, guinea-fowl, tragopan, pigeon, and partridge. Possibly the two flesh-eating birds contracted the disease by eating birds affected with the disease. 3. In July, 1883, Mr. Sutton took counsel with Dr. Gibbes, who submitted specimens of the organs of the rhea, peacock, tragopan, and golden pheasant affected with Tuberculosis, to microscopical examination, with the following result :—Sections of the liver, when stained with logwood, showed circumscribed areas surrounded by fibrous tissue, in which were numbers of cells which appeared to be disintegrated. Among them were numbers of small cells which stained deeply. Outside these areas the liver appeared to be normal. On staining sections especially for bacilli, the whole of the circumscribed areas before mentioned were found to be made up of cells filled with bacilli. These bacilli were in cells varying in size, and also arranged in tubular masses in what appeared to be vessels. They had the same reaction to staining agents as the bacilli found in Tuberculosis ; with a high power ($\times 4000$) they were undistinguishable from them ; they also contained rounded bodies resembling spores. Bacilli were also found in the lung and lymphatic glands of the peacock, in the lymphatic glands and liver of the tragopan, and in the lung, intestine, liver, and spleen of the golden pheasant. With regard to transference of disease from man to animals, it may be said that on the farm originally watched some pigs had died of “tubercular” Peritonitis. These pigs were fed on the refuse from the kitchen, including the offal from the poultry. At the Zoological Gardens two carnivorous animals, an eyra from Brazil, and a paradoxure from India, died with their livers in the same condition as tuberculous birds. These creatures were fed on small birds and the offal of poultry. Their livers were examined by Dr. Gibbes, who found the nodules contained bacilli, giving the same reaction to staining agents as those found in the nodules of birds’ viscera.—G. F.

may be said, the animals rarely move beyond the vaporous zone which they are constantly contaminating.

The principal fact arising from what has now been stated, is that *Tuberculosis is, of all the maladies affecting the domesticated animals, that which is the most wide-spread, and which, of all others, most deserves the qualification of universal panzoöty (Weltseuche).*

It has been considered that this somewhat extended preliminary review of the symptoms, lesions, causes, and propagation of Tuberculosis, must necessarily precede the real questions brought for discussion before the Congress, if it were really desired to treat these in a thorough manner.

FIRST QUESTION.

What is the influence of heredity on the propagation of Tuberculosis?

From the earliest times, the hereditary nature of Tuberculosis has found its adherents and its adversaries. To modern science is due the credit of occupying itself seriously with this question.

The older observations relative to the heredity of Tuberculosis were based chiefly on the fact that calves and young pigs, the progeny of parents affected with the disease, sooner or later contracted it. An example of this is given *in extenso* in an encyclopedia of rural economy, by Dr. Krunitz, in 1878,* and the following are the observations with which he terminates his remarks :—"After having sustained considerable losses for many years, owing to the employment of phthisical animals for breeding purposes, the owner referred to got rid of the scourge which had for so long ravaged his cowsheds, by selling his bulls, and gradually ceasing to breed from the cows which, until then, had been used for this purpose."

Numerous analogous cases are to be found in the veterinary journals of Switzerland, Germany, France, England, etc. In every case brought forward in recent times, it has not been positively established that the animals which became diseased had inherited the malady from their parents, and that they had not

* "Encyclopädie oder allgemeinen System der Staats-Haus und Landwirthschaft," Berlin, 1878. Heft XIV., Seite 751.

contracted it after birth, as Bollinger thought. To prove, from a scientific point of view, that heredity is operative in such cases, it should be demonstrated that at birth the foetus or new-born animal is already diseased, and that, consequently, infection must have been conveyed either to the ovum or the embryo (congenital or congenial transmission).

In these cases, infection might have occurred at different periods of ovular evolution or intra-uterine life. The spermatic fluid might infect the ovum--the infection being most probable if the secretory or excretory organ of that fluid is charged with the contagious principle. The ovum may also become infected through the intervention of the mother, and thus infection may take place *before*, or even *after*, fecundation, if the ovaries, oviducts, or the uterine mucous membrane, are the seat of Tuberculosis.

It may also be admitted that a healthy ovum, fecundated by spermatic fluid equally healthy, is normally developed during the first, second, third, or fourth month, or even longer, and then becomes infected through the blood of the mother. If this infection takes place only a few days before birth, the new-born creature, although apparently enjoying perfect health, is nevertheless in the incubative stage of the malady, which will not be slow to manifest itself.

When the ovum is infected by the father or mother, it does not become developed, or its development is of short duration. In such a case, coition will be unfruitful, and if the infection is due to the mother, she will be rendered completely sterile. If the foetus is infected during its development, it usually becomes diseased and perishes before birth, being generally expelled from the uterus by abortion.

If infection does not take place until the foetus is perfectly mature, birth may occur in a regular manner; but the young animal will soon show signs of the disease, and if it is placed in unfavourable conditions it will succumb rapidly.

These different suppositions are quite conformable to the facts which we have ourselves observed in animals affected with Tuberculosis. It is recognised that a large number of phthisical animals only exceptionally breed, or they remain totally sterile ;

and this absence of the procreative faculty has been indicated by many authorities, and especially by Roloff, as one of the symptoms of Tuberculosis.

It is equally a matter of general notoriety that abortion is very frequent in phthisical cows. The reports published by Göring, Adam, Röbl, and Magin, with regard to the number of tuberculous calves met with at the abattoirs of Bavaria, and particularly those of Augsburg and Munich, prove that the birth of a phthisical calf at full time is a rare fact.

Among an average of 160,000 calves examined by the inspector at the Munich abattoir,

In 1878 there were 2 cases of Tuberculosis

„ 1879	„	1	„	„	
„ 1880	„	0	„	„	
„ 1881	„	0	„	„	
„ 1882	„	2	„	„	*

These figures compel us to admit that the majority of the infected ova perish at the commencement of their evolution, and that a great number of embryos succumb *before* their complete development, and are either expelled, or undergo decomposition in the uterus, in the form of ichorous destruction, or mummification. A small number of fœtuses derived from infected ova are aborted, and a still smaller number are born under normal conditions. Among the new-born, at full time or before it, there may be some which have been infected only a short time before birth, and others which have been contaminated for a more or less longer period—even in the ovum—and which, notwithstanding, do not manifest any morbid symptoms after birth; far from dying from the disease, they may be lively, thriving, and so strong that they grow as if they were in a normal condition.

* Personally communicated by H. Röbl.

(*To be continued.*)

Editorial.

THE FASHIONABLE MUTILATION OF DOMESTIC ANIMALS.

THE vagaries of fashion, which form such a curious chapter in the history of mankind, and constitute a very interesting study in ethnology, are not always limited to the human species, unfortunately, but are manifested in man's dealings with the animals he has domesticated. Not only is there a continual desire to breed or train animals up to a certain standard of fashion—whether with a view to utility or display, gracefulness or grotesqueness, depends upon the whim of the hour,—but when nature cannot be coerced or coaxed into furnishing what is considered necessary, then the hand of the highest animal attempts to transform the humbler brethren into the required model, and individuals are subjected to an ordeal which may or may not be painful, but which results in altering their appearance to suit the taste of the age.

The ordeal is generally of the nature of a mutilation, and consists in removing or altering in some way an important organ or feature, often for no better reason than that the appearance of the animal may be thereby “improved,” or that, perhaps, the creature may be rendered more useful. It must be admitted that the improvement-in-appearance plea is that which underlies the prompting to mutilate, and only too often the question whether such improvement is required, or whether, when effected, it is not rather a disadvantage to the animal, and also to its master, is not raised, or it is ignored. Our French friends say of our passion for slaying, that when good weather visits us, an Englishman exclaims, “Here is a fine day, let us go and kill something.” Somewhat to the same effect is our tendency to mutilate animals to improve their appearance, or make them “look smart,” as it is termed. “Here is a beautiful animal, let us improve it by cutting off its tail, cropping its ears, slitting its nostrils, and clipping off its hair in certain places.”

Of all the domestic animals over which tyrant fashion has most ruthlessly exerted sway, the dog and horse may, without exception, be reckoned the principal. The dog has been bred for fashion from the earliest times, with the object of gratifying mankind with a toy or a servant, or providing him with a placid companion or a pugnacious bully; and the creature has been subjected to most painful operations to bring it within the range of fashion, or to minister to some strange superstition—ear-cropping, tail-cropping, “worming,” and similar mutilations have been in vogue, chiefly in this country, and flourished most, perhaps, during last century and the first half of this.

The horse has been subjected to various mutilations of a fashionable kind from the earliest times, and the pain and subsequent inconvenience never appear to have been considered.

We do not now allude to the horrible tortures inflicted by the farriers of one, two, or three centuries ago, such as tearing off the hoofs to cure some fanciful disease, removing the nictating cartilage of the eye when that organ was inflamed, and other operations of an irrational

kind. We would rather refer to tail-amputating, nicking, and ear-cropping. As for nostril-slitting, though much practised in the East, from the erroneous notion that a horse in galloping could respire more freely, yet it has never gained ground in Europe—because, we suppose, it could not be made fashionable; and though somewhat extensively resorted to by Eastern equestrians, it is not a mere fashion with them, but a practice having greater usefulness as its aim.

When the horse began to be mutilated to please the fancy of its master, it is difficult to discover. Cruelty to animals was not, as a rule, one of the characteristics of ancient peoples, and humanity to their horses forms a prominent feature in their history. The regard of the Eastern emperors for their steeds, however depraved these monarchs may otherwise have been, cannot be overlooked. For instance, Constantine and his successors from time to time issued edicts, not only regulating the price of horses, but enforcing the mild and proper treatment of them throughout the empire, thereby instructing their subjects in a most important branch of moral justice. It was made penal by the laws to strike the horse with a club or unfair stick, their owners being enjoined to correct horses with a wand or rod; and such were the grateful feelings of the emperors towards their old steeds which had well deserved kindness, that these were maintained for the remainder of their lives as pensioners of the public treasury, and were designated as *emeriti*, or deservedly discharged—a custom which had before prevailed at Rome.

There is no record of ear or tail-mutilation of horses in these early days; on the contrary, well-shaped ears and a long, flowing tail were considered as essential points in a horse.

Plutarch, however, tells us of a custom prevailing in certain foreign countries, of depriving the horses of a portion of their tails, on the supposition that this would “enhance their speed and make their loins stronger” (*Ut equi hoc mutilatione alacriores, et spina dorsi robustiores fierent*). We shall see hereafter that a similar notion was entertained in this country.

Marco Polo, in the thirteenth century, when describing the province of Karazan, in Thibet, alludes to a fashion among the horsemen of cutting off two or three joints from the tail of their horses, so that they might not strike the rider, which was considered disgraceful (*Auferre solerent de ossè caudæ, nodos duos vel tres, ne equus sessorim feriat, et ne caudam nunc hunc, nunc illuc, flectere possit*).

The only mention of ear-cropping we can just now find in ancient writers, is by Xenophon, who gravely asserts that a mare will not associate with an ass until she has been degraded by having her ears cut off.

In the Middle Ages some kinds of horses were probably submitted to “docking” (amputation of the tail), but chiefly in this country, where it was known as a “curtal” (curtailed)—in the French language “curtaud.” In the book of regulations and establishments of Algernon Percy, fifth Earl of Northumberland, which was begun in 1512, we find an enumeration of the horses kept for “my lordys and my ladys,” and among these is mentioned “a great double trottyng horse, called a

curtal, for his lordship to ride on out of townes." In Gervase Markham's treatise on horsemanship, published in the 17th century, in describing the tricks performed by Banks' wonderfully trained horse, he mentions it as a "curtall."

In the treatises on farriery published during the 17th and 18th century, the operation of "curtailing a horse" is often described, and Wallis (the "Farrier's and Horseman's Complete Dictionary," third edition, 1775) says that "to curtail a horse is to dock him, or cut off his tail;" and he adds that "curtailing is not used in any country in Europe or elsewhere so much as in England, by reason of the great carriage and heavy burdens our horses are continually employed in carrying or drawing; the English being of opinion that the taking off these joints makes the horse's chine or back much stronger, and more able to support a burden." Here we find the mistaken notion, mentioned by Plutarch as being the cause of docking in his time, prevailing, and with the same result, in this country in the eighteenth century. The tail must have been cut very short, as it is directed to operate with a sharp knife made for the purpose, the edge being set between the fourth and fifth joints, and the back struck with a heavy hammer. The bleeding was stopped, as now-a-days, by means of a red-hot iron. Sometimes the edge of the knife was put on the under surface of the tail, while the organ itself was struck with the hammer or a wooden mallet, which frequently led to mortification of the part.

Bracken (the "Gentleman's Farriery"), towards the middle of the eighteenth century, speaks of "docking" being a common operation, and, with other writers, alludes to such accidents as gangrene of the tail, lock-jaw, and sloughing.

With regard to Wallis's remark, that tail-mutilation was more fashionable in England than elsewhere, it may be noted that it was probably introduced into France at the commencement of the seventeenth century. The custom of cropping the beard short, after the accession of the youthful Louis XIII. to the throne, was, we are told, extended by the courtiers to the tails of the inferior animals; a circumstance which caused the Marechal Bassompierre (who had been in prison the twelve last years of the reign of Henry IV., when beards were worn long) to say, on coming to court again, that he saw no change in the world since he had been secluded from it, except that men had lost their *beards* and horses their *tails*.

With regard to the horrid fashion of ear-cropping, it probably began when farriers commenced to become bolder operators, and took a delight in wielding the knife, hot iron, and using boiling oils. It was no doubt prevalent in Shakespeare's time, as in "King Henry IV." (Part I., Act ii., scene 3), when Hotspur is inquiring about his horse, the mutilation is referred to:—

Hot. Hath Butler brought those horses from the Sheriff?

Servant. One horse, my lord, he brought even now.

Hot. What horse? A roan, a *crop-ear*, is it not?

Servant. It is, my lord.

The fashion prevailed more or less up to the beginning of this cen-

tury, and even less excuse was made for it than for "docking;" indeed, none seems to have been offered, except that of making the poor creature "more smart"—the same apology that was given for cropping dogs' ears.

How the operation may have been performed at an early period we cannot learn, but later we are informed that the ear was firmly seized between the branches of an iron mould or "clam," this being so inclined as to give any kind of *crop* that might be required; then, with a large sharp knife—a carving-knife, for example—at one sweep the ear was to be removed. As it was thought highly necessary to make both ears alike, the part that had been removed from the first ear was employed as a guide in adjusting the clams for the second. After the operation, it is pointed out that great care should be observed on putting on the bridle, as the horse will for some time be shy of having his head touched; which might continue for a considerable time, and prove extremely inconvenient.

Another abominable fashion, causing great pain and injury to horses, appears about the same time as the introduction of cropped ears, and with these and "docking" made the poor animals sad examples of what a depraved taste and cruel hearts could make them. The object of the operation was to make the few inches of stump, representing what was the tail, rigid and erect, and to achieve this end two or three—generally three—deep gashes were made right across the under surface of the tail, through the important muscles which pull that organ down, and assist in moving it from side to side. The first incision was made two or three inches from the root of the tail, and the second and third a like distance from the first and from each other.

The incisions were carried down to the bones, and the divided muscles protruding from the gaping wounds were torn out by means of a hook, and cut off, the cavities thus made beneath the skin being filled with tow and bandaged over. Cords were then attached to the tail and passed over the back, where they were fastened to a girth so as to pull the tail up over the back, or they were passed through pulleys placed above the stall, and weights tied to their ends, so as to keep the tail upright until the wounds were healed—each wound being so wide and deep that a long time was required to fill it up; and to expedite a cure, the farriers of those days employed various salves, balsams, etc., "for the purpose of deterging, incarnating, and cicatrising" the wounds. According to White, many horses were destroyed through the effects of the operation or the subsequent treatment. The miserable animal was kept continuously in a standing position for not less than three weeks, the tail all the time being maintained bent over the back or held erect by the pulleys and weights, which were of five or six pounds.

"Nicking" was not much practised until the seventeenth century, when, combined with docking, it became somewhat prevalent in England; and the double mutilation was then, perhaps, practised under the idea that it gave the under-bred horses, then so common in this country, the horizontal-looking croup of Eastern horses. In the eighteenth century the mutilation was quite common in England, but it was not fashionable.

on the Continent until Bartlet's and Bracken's books on farriery were translated into French, the first-mentioned by Dupuy, when the *que à l'anglaise* was popularised by La Fosse, and was perhaps as much admired in France as in Britain. From France the fashion soon extended to Germany and over the whole of the Continent. So that, towards the end of the last century, as a rule, all horses were "docked," and carriage and riding horses were "nicked" and "docked," and their ears cropped. Indeed, at the commencement of the century we are told that it was the general custom to nick and dock the tails of all hunters, covert hacks, and waggon horses so close, that nothing remained of this picturesque and beautiful ornament of nature than an ugly, stiff stump, very little longer than the human thumb, which, especially in summer-time, was seen continually wagging to the right or left (it could not be depressed) in impotent attempts to brush away a hungry fly biting the skin only a few inches off.

This, for some reason or other, was designated the "Cadogan tail," possibly because some member of the Cadogan family had sanctioned a little more mutilation than had been previously inflicted, and all troop-horses were made fashionable in this way. Nothing could be more unsightly, painfully comical, or ridiculous, than to see a regiment of these crop-ears and erect stump-tails, drawn up in line, towards the end of the last or beginning of the present century—victims of a very depraved taste, as unreasonable as it was morbid, and worthy of the time in which bull and bear-baiting, badger-drawing, cock and dog-fighting, and the brutalties of the prize-ring, were the fashionable amusements of all classes.

The ear-cropping was the first of the abominable practices to be discarded, though it was continued well into this century. White, in 1815, says it had become more unfashionable than "nicking," and had nearly, and very properly, been exploded. The hideous appearance of the animal no doubt tended much to bring the fashion into disrepute, for it is much to be feared that the pain of the operation or the subsequent discomfort of the horse had but little to do with its extinction. The physiognomy of a horse with its ears cropped short, could not have been very pleasant, and to many who were not accustomed to it would appear as unsightly as the docked tails of now-a-days do. Sir F. B. Head, in "The Horse and his Rider," relates that an officer took to the Cape of Good Hope a gentle, beautiful, thoroughbred mare, which, to his astonishment, the natives appeared exceedingly unwilling to approach. The reason was that her ears had been cropped, and as among themselves that punishment was inflicted for crimes, they were induced to infer that the handsome, mutilated animal had suffered from a similar cause—in fact, that she was vicious.

A more humane and laudable taste was springing up, and writers were appearing who had the courage to denounce ear-cropping, nicking, and docking. White, an army veterinary surgeon, in 1815, asserts of "nicking," that "this cruel operation has become rather unfashionable within a few years"; and with regard to docking, he confesses, "this is a painful operation, to which most horses are obliged to submit. . . .

After the tail is amputated, the most painful part of the operation takes place—that is, searing the bleeding surface with a red-hot iron in order to stop the bleeding.” At this time “docking” was only looked upon as a caprice or vagary of the human mind, and no apology was made for it on the score of utility—as none could be made. Lawrence, in his “History and Delineation of the Horse,” in 1809, in admiring horses with unamputated tails, writes: “Most truly, these fine, flowing tails might be put into a buckle, *à la militaire*, yet the *prejudice of custom* will not suffer me to look upon such a fashion for the turf, road, or field, without a smile.”

Captain Thomas Brown, a horseman in the true sense of the word, in his excellent and most interesting book, “Biographical Sketches and Authentic Anecdotes of Horses,” published in 1830, refers to these fashionable mutilations. He says: “The barbarous and absurd practice of docking and nicking the tails of horses, and the hideous custom of cropping their ears, which was so prevalent some years ago, have ceased to be fashionable. The former was commonly practised on waggon horses, under the pretence that a bushy tail collected the dirt of the roads. That of nicking was chiefly performed on hackneys and hunters, to make them carry their tails high; and that of cropping the ears, from a notion that it made them appear more smart. Thus, from *ideal* necessity, the animal was deprived of two parts essentially necessary to himself and useful to man; for by docking and nicking the tail we destroy the utility of that organ in lashing off the flies and other insects by which he is tormented in summer, and deprive him of a necessary protection against cold in winter. But, of all others, the useless and cruel operation of nicking deserves our most severe censure. This cruel practice of wounding and tormenting the animal, for the purpose of adding to his appearance of smartness, could never be witnessed by the humane without creating a shudder. . . . By cropping the ears, the funnels which convey to the internal drum the impulse of sound, are rendered nearly useless, and hence a horse which has thus been treated is unsafe to be used either on a street or a much-frequented road.”

A few years later, Youatt (“The Horse”) says that “the shortening of the tail of the horse is an operation which *fashion* requires to be performed on most horses. The length of the dock, or stump, is a matter of mere caprice. To the close-cropped tail of the waggon-horse, however, we decidedly object, from its perfect ugliness, and because the animal is deprived of every defence against the flies. The supposition that the blood which should have gone to the nourishment of the tail causes greater development and strength in the quarters, is too absurd to deserve serious refutation. It is the rump of the animal being wholly uncovered, and not partly hidden by the intervention of the tail, that gives a false appearance of increased bulk.” He speaks of Tetanus, caries of the bones, and a portion of the tail dropping off at the joint, as a result of the operation. With regard to the painfulness of “docking,” he remarks that some farmers dock their colts a few days after they are foaled, and he states that this is a commendable custom on the score of humanity. With respect to “nicking,” he states that “this barbarous

operation *has been long sanctioned by fashion*, and the breeder and the dealer must have recourse to it if he would obtain a ready sale for his colts." He adds, however, "it is not practised to the extent it used to be, nor attended by so many circumstances of cruelty."

Nicking, for some years, has been but little, if at all, practised, though we have seen the operation performed by a veterinary surgeon less than thirty years ago, and have been shocked at the worse than needless torture inflicted upon the unlucky horse to gratify a stupid whim.

The fashion of docking, too, was less prevalent for a time, and was more especially banished from racing and training stables. The late William Day, in his book, "*The Race-Horse in Training*," writes: "To insist at all hazards on a glossy coat is, in my opinion, only on a par with the barbarous custom of forty years ago or more, to shorten the docks of all horses, young or old. Usually they were subjected to this treatment during the first or second week after their arrival at the training quarters, the operation being performed by the severance of a few inches of the vertebræ of the tail, stanching the hæmorrhage by the application of powdered resin and the actual cautery. Happily for the tortured animal, the practice has long ceased, as has nicking. . . . All men now prefer to see the noble animal as formed by nature, rather than in a mutilated shape, disfigured at the hands of capricious humanity."

Most unfortunately, the practice of docking, never discontinued, has become very common of late years, and especially since the introduction of the game of Polo; and it is to be apprehended that the cycle of pitiless fashion may also once more bring into the category of animal mutilations, the equally absurd and cruel practices of nicking the tails and cropping the ears of horses. Sometimes docking is performed by a veterinary surgeon, but far more frequently it is done by the farrier, blacksmith, or horse-dealer; and it is the latter, we believe, who is mainly responsible for the extension of the cruel practice. Quite recently we inspected eighteen horses in a dealer's stable; these animals had been brought from the country to London only a few days before, and fourteen of them, of ages ranging from five to eight years, had been docked immediately before we saw them, and therefore since their arrival. About one-half of the tail had been amputated, and, to arrest the bleeding, the flesh had been roasted away by the hot iron to such an extent as to leave the bones of the tail protruding, white and dead, to the extent of a quarter to half-an-inch. These animals had been docked for sale, and with no object in view except that of improving their appearance. Anything more repulsive can scarcely be conceived than the sight of these stumps, and sloughing and carious bones, if not worse, must have been the result of the operation.

It is probable that the majority of horses, apart from those in the army, are submitted to this reprehensible operation, and chiefly while in the hands of the dealers. However much one may be desirous of purchasing horses with non-mutilated tails, it is most difficult to find them in this country. Polo ponies are only left a few inches of a stump, and carriage and riding horses—especially hacks and hunters—are unmercifully curtailed of their fair proportions.

Those who are in favour of this disfiguring, painful, and torturing mutilation of the animal which is of all others most useful to man, and is at the same time most persistently abused and maltreated by him, bring forward some extraordinary arguments in favour of the fashion, or in attempts to prove that the operation is not painful. It is needless to say that scarcely any of these arguments deserve serious notice, as they are as destitute of foundation as that which, employed since the time of Plutarch, would have us believe that the horse's back is made stronger by removal of the caudal vertebræ.

One argument is to the effect that the operation is nearly, if not quite painless, owing to the low degree of sensibility possessed by the tail, and by the rapidity with which amputation may be effected. Nothing can be further from the truth than the assertion that the tail is endowed with little sensibility. It is composed of bones, muscles, nerves, and blood-vessels as abundantly as any other part, and these are enveloped in skin, as delicate and sensitive (on the under surface) as that on the most sensitive region of the body; this may be readily demonstrated by pricking it with a pin. The rapidity with which the tail may be chopped off is no argument that the animal does not suffer at the time and subsequently; suffer it does, and it betrays this suffering in the most unequivocal manner. The amount of pain subsequently experienced will depend to some extent upon the manner in which the amputation has been performed; but suffering is always experienced, and if the operation has been badly done, this may be very great. Tetanus is sometimes a consequence of the operation, however skilfully conducted; suppuration and carious bones are far from uncommon, and we have been compelled to re-amputate more than once, in order to cure horses which had been "docked" before they came into our hands.

Another plea in favour of docking, is that removing some inches of the tail prevents harness horses throwing it over the reins, and consequently running away or kicking. This plea also will not bear examination. From inquiries instituted during many years, and from personal experience, we find that when horses have run away, or kicked, owing to the reins getting under the tail, these animals have invariably been "docked," and their behaviour was, no doubt, due to their remembering the painful operation, and consequent dread of anything touching the tail. We have never found undocked horses afraid of the reins about their tails, and in our colonies, and in countries where docking is not practised—as in the United States—where driving is perhaps as common as here, horsemen would laugh at the idea of lopping off their horses' tails to prevent these getting over the reins. A short tail is more readily thrown over reins than a long one, as it is more horizontal, and the reins can more readily drop under it. Besides, a person who would allow his reins to drop under his horse's tail is not fit to be a driver. To show that the danger of driving horses which have not been docked is purely imaginary, so far as reins and tail are concerned, we may mention that a tramcar company in London purchased fifteen hundred American horses some years ago. These horses' tails were the natural length, and the animals themselves were as spirited and impulsive as well-bred

English horses usually are. The drivers sat below the level of their horses' hind-quarters, consequently the reins were always more or less in proximity to the tail, and yet no accident has occurred from the reins getting entangled about the tails.

Many more facts might be adduced to show how utterly baseless this plea is. Of course it cannot be brought forward in favour of saddle horses, which are subjected to the mutilation quite as much as, if not more than harness horses.

It has sometimes been brought forward as a pretence for docking, that harness horses often have their tails "rubbed raw" or injured through contact with the vehicles they draw, and that amputation is necessary in order to fit the animals to the carriages. If anything could bring docking into disrepute, surely this excuse would. Our venerable, and always instructive contemporary, *Punch*, not long ago had an amusing instance, which illustrates the absurdity of the plea of attempting to make horses fit harness and carriages, instead of these being fitted to the horses. An old gentleman is having his boot fitted on by a son of Crispin, who suggests that the fit would be all right if his customer would only have a piece pared off his toe—have his foot made to fit the boot, in fact. The indignant client demands that the boot should be made to fit his foot, not his foot mutilated to suit the boot.

The riders' arguments in favour of docking are quite as groundless, and scarcely require notice. The chief is that the tail bespatters the rider in wet weather or on muddy ground. Removal of the hair from the end of the tail should remedy this evil, without chopping off the tail proper. And some strange notions prevail with regard to the length of the "dock." We have measured some hundreds of undocked horses, and find the average length of the caudal appendage to be about twenty inches from root to tip—what might be looked upon as short, if the hair is cut away from the end, and very unlikely indeed to incommode either rider or driver.

The disadvantages of "docking" are manifold, and must be obvious to those who care to inquire, have no pecuniary interest in the operation, and are not fettered by the restraints of fashion. Rarely indeed do we find that nature bestows anything in vain, and the horse's tail, apart from its being an ornament, must be considered a most useful organ. In the first place, it covers and protects from exposure parts which should be concealed and protected from accidental injury, the effects of weather, and the attacks of insects. It is very disgusting and painful to see horses, and especially mares, with only a few inches of tail left, showing these very sensitive parts exposed to gaze and external influences, the animals being utterly helpless to defend themselves from the latter. The skin of the horse is almost morbidly sensitive over the whole of the body, and is especially so to the presence of insects; therefore nature has provided exaggerated defences which none of the other domesticated animals so much require, in the shape of a forelock, mane, and tail abundantly provided with long hair. The forelock protects the eyes and roots of the ears, the mane the sides of the neck; the upper part of the body has the special provision of a skin muscle, which is so powerful as to spasmodically

wrinkle up that covering and shake off any offending objects, while the mouth can assist in this act ; and towards the flanks, over the quarters, under the dock and belly, and between the thighs, where, perhaps, sensitiveness is most developed, the un mutilated tail with its long hairs is the only protection the creature has. Remove this protection by the painful operation of "docking," and the life of the animal is ever after rendered miserable, because it has no means left for freeing itself from annoyances which are, more or less, always present, but are felt most severely in warm weather. The tail reaches those parts which the horse cannot touch with its mouth, and to which the corrugator muscle of the skin does not extend its action. Therefore the fashionable mutilation, in itself deforming, painful, and annoying, is a life punishment to the poor horse. We remember seeing, many years ago, a print of two horses at pasture, one of which, with a long, flowing tail, and fat and healthy, was heartily cropping the herbage, while the other, docked short, was a gaunt skeleton covered with flies, whose annoying bites and titillations in the region of the flanks and thighs it could not possibly defend itself from. In a corner of the paddock was a notice board, the significance of which was unmistakable, to the effect that long-tailed horses were grazed for six shillings a week, and "bob-tailed ones" for two shillings.

Army horses are not "docked;" no inconvenience has ever been reported because of this; on the contrary, horses which had undergone this operation would not be so serviceable, and should therefore be rejected.

Such operations as docking, nicking, and ear-cropping of horses must be classed as those which are not only cruel in themselves (useless and painful operations are cruel), but which render animals less valuable.

The veterinary profession must stand by its motto of "Science, humanity, and utility." Chopping off horses' tails for mere fashion's sake, is neither a scientific, humane, or useful operation, while it sins against that good taste which respects the proportions and admires the beauties of a perfect horse. England has hitherto stood pre-eminent as the country in which horse mutilation has flourished. Let it not be said of the veterinary profession that, for the sake of a few paltry shillings, it panders to this depraved taste for deformity and imperfection, which is accompanied with pain and annoyance to an animal that should be taken under special protection, and guarded as a creature too sacred to be submitted to the wild follies of fashion.

ORIGIN OF THE HORSE.

M. WORTMANN has made an interesting study of the horse from the point of view of transformation. It is certain the promoters of the theory of evolution of organic forms have not done sufficient when they rest satisfied with accumulating theoretical arguments to show that the present species are derived from pre-existing forms, under the influence of external circumstances and of vital concurrence.

Something more is wanted : it is necessary to study carefully fossil forms,

there to follow geological succession of organic forms, to take at length paleontology for the basis of general zoology.

In placing it in this way, nothing can be better than to undertake the thorough study of one form of animal. It is this M. Wortmann has done in selecting one of the most important members of the order of hoofed creatures with double digits, the horse that naturalists call the *Equus Caballus*.

Let us first define the term, "ungulate." They are all those animals provided with hoofs, following the classification of Professor Cope, who has made an especial study of the subject in an American scientific paper ("Proceedings of the American Philosophical Society, 1882").

Mr. Cope identifies the *Taxeopodes*, which are now only represented by the African daman, but which in the eocene epoch formed an important order in America; then come the *Amblypodes*, a group quite distinct, still represented in Europe and America. The third group is that of *Proboscidi*ans, which includes elephants and mastodons; the fourth comprising the hoofs in single digits (the horse, tapir, rhinoceros), and the hoofs with pair digits where the foot is forked (sheep, oxen, and camels).

The fundamental bases of this classification are taken in the structure of the members, and particularly in the modification of the tarsus and the metatarsus. There exists in these parts a decided distinction, which closely indicates that the form of the foot in vital concurrence has been a predominating feature.

Animals whose feet are not perfected and developed after a certain manner have disappeared.

It is thus, says M. Wortmann, that Kovalewski first pointed out, and Cope has since elucidated the fact, that the first type of animals were *Pentodactyles* and *Plantigrades*. Cope has equally demonstrated that these animals present a serial arrangement of the carpal and tarsal bones—in other words, that the bones of the first row are exactly in apposition with those of the second.

This type of carpal and tarsal arrangement appears only in the elephant and daman amongst living animals; these are, then, if the expression may be permitted, backward types.

When the peculiarity commenced, the bones of the second row effected a movement of rotation inwards, which has coincided with the disappearance of the thumb or first finger; it is placed in the spaces between the bones of the first row, and from this the articulation gains a far greater power of resistance. It is, then, this type which has prevailed in the struggle for existence.

The section of hoofed animals to which the horse belongs is anatomically distinguished by what is called the third trochanter, a projection sufficiently distinct, and placed on the femur, independent of the two tuberosities offered by this bone superiorly. There are again some other characters which we shall not detail here.

They have divided these hoofed animals into ten families, including about fifty species.

With especial regard to the genealogy of the horse, there are only four of these families which are of importance. The *Lopheodontidæ*, the *Chalicotheridæ*, the *Palæotheridæ*, the *Equidæ*. Geologically these animals succeed each other since the lower eocene earth till the formations of the present day.

In the *Equidæ* of latest form the digital arrangement has become single in each foot.

Mr. Cope published, in 1874, a pamphlet on "*L'Origine et les Homologies des Types des Dents Molaires chez les Mammifères*"; he has noted two types of dentition, the type in which the teeth present a deep crown with blunt elevations, and slightly projecting on their grinding face, corresponding to a short intestinal canal; and a second type, where the crowns of the teeth are

prolonged in a vertical direction, and in which the grinding surface presents complicated folds formed by plates of enamel, accompanying a complicated digestive mechanism, and an alimentary canal of greater length.

These two types represent two different kinds of life, the first applying to omnivorous, the second to herbivorous animals, which are organized so as to draw nourishment from substances containing few nutritive elements, living in open plains and forced to rapid movements.

Mr. Cope propounds the first as an arch-type from which the second was derived, and proportionally in the same measure as the teeth changed, consequent on changes in the *régime*, the members changed equally.

M. Wortmann attaches great importance to the study of Taxeopodes, represented, as we have said, in the present day by the daman of Africa. These animals appear to him, with regard to their teeth and members, to be the ancestors of hoofed creatures with divided hoofs.

Mr. Cope has raised a very interesting faunus from the eocene bed of Puerco during the last two years, which has great interest in connection with the subject we discuss.

Figures are necessary to remind us of the analogies and different conditions observed by Mr. Cope. We shall only speak of those which attain in succession to the character of the existing horse; the last terms are the following: Hippotherium—Protohippus—Equus.

A gradual change of the foot has brought with it a greater power of movement in the mandibular articulation. Following the cause of reduction of the digits, says M. Wortmann, Mr. Cope has shown that in plantigrade quadrupeds the extremities of the digits become arranged in the form of a semicircle in touching the ground. When moving quickly, the heel and the thumb are lifted from the ground, thus causing the weight of the body to be carried by the lesser fingers.

The continual repetition of this posture in animals unable to await the attacks of their enemies, and able only to seek their safety in flight, and the thickening of the middle finger, or digit, and corresponding atrophy of the lateral ones, caused them to conform to the law which rules the usage and want of usage of parts.

This reduction of digits was accomplished gradually, thus creating at length the soliped, or modern horse of one digit.

DOES "SMUT" IN PLANTS CAUSE ABORTION IN CATTLE?

THE influence which certain fungi exert in the production of abortion in cattle, is often alluded to by those who have studied the causes of this accident, and on the whole the existence of such influence has been affirmed. A recent writer in the *National Live Stock Journal*, of the United States, would appear to doubt the influence of what is known as "Smut," from the experience derived in feeding cattle with grass so infested. He says: "When abortion among cows became epidemic in the cheese-producing districts of New York and Eastern Pennsylvania, the cause was, for a long time, quite confidently believed to lie in the 'Smut' developed in the heads of June grass that abounded in the pastures, much of which ran up to seed and often blasted. An accidental circumstance gave the writer an opportunity of testing the validity of this opinion. A field of five acres was loaned to a neighbour for a specific purpose, who agreed, in any event, to pay a stipulated sum for the use of it, so it was left for his use till, by reason of excessive wet, it was too late for any spring crop, and therefore remained unploughed all summer. It had been occupied with barley the year before, and as there

was time after harvest for weeds to spring up and mature, the ground became well seeded with barn grass (*Panicum crus-galli*), which came up plentifully the next spring and produced a heavy crop for that kind of grass. When it had reached its full size it was cut and cured for hay, and about the middle of March foddering began, it being fed to ten cows kept in a barn by themselves. They ate it freely, and all seemed to go along well till the second day of April, when a cold snap occurred, accompanied with very high wind, and the mercury fell to 18° above zero. The extremely high wind made it so uncomfortable for cattle to be out that they were turned out to water in the morning and immediately put back into the stable, where they remained without suspicion that anything was going wrong till towards night, when it was discovered that the feet of five of them were frozen, and two of them so badly that they died from the effects, and the other three were damaged to the extent of twenty dollars a head. Exercise, thorough grooming, and a cessation of the wind saved the other five from a similar fate, and they went through all right, though the extremities of all were very cold and numb. Upon examination, it was found that the blood of all in the stable had become unusually dark-coloured and thick, so that its circulation was impeded in the feet and legs and ears and tails of all. This led to an examination of the barn-grass hay. It had been noticed when harvesting to be somewhat smutty, but as the straw was bright and green, and the cows ate it apparently with a good relish, no harm was suspected. A closer examination now showed that the heads which appeared plump and full of grain had hardly a kernel of seed in them. The hulls of what appeared to be seed, were crowded full of smut, so that the cows must have taken in a heavy allowance of it at every meal. That this free use of smut was the cause of the dark colour of the blood and its stagnation in the feet and legs and the consequent freezing, was evident from the fact that the remainder of the herd—twelve in number—which were kept in another barn, with only the same protection, and treated in the same way, except that they were fed common hay, came through all sound and without appearing to be inconvenienced by the cold and wind, and from the further fact that the same cows which were frozen at a temperature of 18° above zero had, in the previous February, and in the same stable, for two days endured the unprecedented cold of 28° below zero, without freezing or seeming to be much disturbed by this extreme weather. None of these cows aborted, though fed for some three weeks with so much smut as to produce the extraordinary effects stated. If the epidemic abortion was generally caused by the existence of smut in the hay the cows were fed, it must have occurred in this instance, where so much of it was taken for so long a time. The fact that it did not, clearly indicates that though smut may be a provoking cause, it is not the general cause of its occurrence over the vast extent of territory in which it has appeared."

FOOT-AND-MOUTH DISEASE IN THE UNITED KINGDOM IN 1883.

THE serious visitation of Foot-and-Mouth Disease in the past year, shows how culpably defective the arrangements are in this country for the exclusion of contagious diseases of animals, and for their suppression when introduced. The legislative measures at present in force are either incomplete, or are incompletely carried into effect—we believe they are both; and taking the year 1883 as evidence of this, we think the country would not be much worse off if there were no interference with either the importation or internal movement of cattle, sheep, and pigs. To admit these animals from infected countries is

a blunder, and to attempt to control or suppress the disease when it is allowed to invade the country, as is now done, is as great a blunder. Among the several causes which tend to spread and maintain the disease, is the action of the local authorities, and especially their tendency to appoint as veterinary inspectors men whose only qualification is the absence of qualification—a tendency which has been particularly fostered by the recent unaccountable proceeding of the Privy Council, in going out of its way to put members of the Royal College of Veterinary Surgeons and unqualified “existing practitioners” on the same platform as inspectors under the Contagious Diseases (Animals) Act.

The *Standard*, in an excellent article on British Agriculture in 1883, as all the other public papers have done, alludes to the progress of the scourge. It would appear that the spread of infection was comparatively slow during the first half of the year, and it was not till the week ended September 8th that the climax was reached. In the six months ended June 30th there were 3,462 outbreaks, attacking 114,102 animals. From that time till September 8th the disease spread with alarming rapidity, reaching the maximum of 1,402 outbreaks, and 21,589 animals attacked, on the date named. Since September 8th there has been a gradual though not a constant subsidence of the epizooty.

The following table shows the numbers of outbreaks and diseased animals for the first half of the year, for the ten weeks ended September 8th, for each week subsequently up to the date of the latest official returns, and the totals for the year up to that date :—

1883.		Outbreaks.	Animals.
Six Months to June 30		3,462	114,102
Ten Weeks to Sept. 8		4,218	89,090
Week ended „ 15		1,004	24,881
„ „ „ 22		1,049	23,018
„ „ „ 29		983	20,610
„ „ Oct. 6		758	16,504
„ „ „ 13		641	15,421
„ „ „ 20		556	11,260
„ „ „ 27		600	12,700
„ „ Nov. 3		665	12,970
„ „ „ 10		674	11,238
„ „ „ 17		549	12,778
„ „ „ 24		611	12,842
„ „ Dec. 1		631	14,006
„ „ „ 8		497	11,753
„ „ „ 15		457	11,944
Total from Jan. 1st to Dec. 15th		10,355	415,117

For the whole year the number of animals attacked will be about 440,000. This is exclusive of the number in Ireland, and as the contribution of Scotland to the total is insignificant, the seriousness of the epizooty in England and Wales is obvious. That very few counties have escaped the infection, is shown by the fact that in the Order in Council recently issued, closing nearly all the markets of England and Wales for store stock from December 26th to February 29th, the only whole counties exempted are Cornwall, Cumberland, Devon, Hereford, Monmouth, Oxford, Westmoreland, Wilts, Brecon, Cardigan, Carmarthen, Merioneth, Pembroke, and Radnor. These counties have not all escaped, but they are free, or nearly free, from the disease at the present time. The Order will paralyse the live-stock trade wherever it is

in force, which it is in a vast majority of the markets of the country, as it prohibits all public and private sales except by license of the local authority, and that can be given only when the animals are to be marked for slaughter within six days, a regulation which excludes store stock. Such a vexatious interference with the internal traffic is intolerable, so long as live animals are admitted to our water-side markets from countries in which Foot-and-Mouth Disease is known to exist.

ACTINOMYKOSIS IN MAN.

THE wide prevalence of Actinomykosis among the bovine species in this country, and the increasing attention directed to the malady since its presence was, for the first time in English veterinary literature, announced in this Journal, led to the suspicion that, as in Germany, so in these islands, it would be found also in other species, and doubtless in mankind. We have lost no opportunity of putting physicians and surgeons on the alert, with regard to recognising the disease in man, and a case has at last been discovered, though there can scarcely be a doubt that there are others not yet diagnosed; indeed, there is reason to fear that such instances are not so rare as we should like to believe.

At the meeting of the Pathological Society of London, on January 4th, Mr. F. Treves showed a living specimen of Actinomykosis in a man aged forty-six. The disease had begun as a nodule, about the left side of the neck, and had spread downwards over the chest on the same side. All stages of the malady were represented—from minute solid outgrowths to large masses with suppuration and sloughing.

Professor Osler, of the Montreal Veterinary College, informs us that Actinomykosis in cattle is very common in that part of Canada.

EVERY-DAY MATTERS IN AN INDIAN MILITARY VETERINARY PRACTICE.

BY J. H. STEEL, M.R.C.V.S., A.V.D., IN VETERINARY CHARGE, R.A., H.S.F.,
SECUNDERABAD.

(Continued from page 33.)

VARIOLA EQUINA has a sort of suppressed existence here. Whether it has any relation to Small-pox among the natives it is hard to say, but a short time ago, while Small-pox was prevalent in the bazaars of the villages about this station, there were a few mild cases of Horse-pox. Although this was the first time I had seen the disorder, I suspected its nature from the accurate account of cases given in the VETERINARY JOURNAL for 1882. The sudden invasion, the acuteness of attack, and the eruptions being on the skin of the external nostril, for the most part, enabled me to at once determine that I had not to do with Glanders. These cases proved sporadic, and since then I have had two cases of Nasal Catarrh, which very probably were Variola, but afforded no indubitably diagnostic indications.

TETANUS has not visited these lines since I have been in charge. This is rather noteworthy, because in other parts of Secunderabad it has been frequent. Thus among the young Arabs and Persians of the Hyderabad Contingent (Bolarum) several cases have occurred subsequent to castration, and the same may be said of the remounts of the 3rd Madras Light

Cavalry (Bowen Pilly). I have heard of other cases in the cantonments around, and so am led to ask whether the non-occurrence of Tetanus here is attributable to special climatic influences, or to anything in the method of treatment of wounds, notably those which are made in castration. Both Bowen Pilly and Bolarum have a moister climate than Trimalgherry, and the sick lines here are freely open to breezes from every direction, whereas those at the two places mentioned are somewhat shut in and low-lying. Our boxes and stables are better ventilated than the others, and are well away from other buildings, and we are exposed to greater extremes of heat and cold : possibly these differences have some influence. We do not castrate so many animals here as are operated on in the other places, but still wounds of various kinds are numerous. We always adopt antiseptic treatment, not on strict Listerian principles, which are quite inapplicable to veterinary surgery, but much in the same manner as it would be carried out by military surgeons in the field. Indeed, we often think that ordinary veterinary surgery necessarily resembles, in "roughness and readiness," and in the impracticability of ultra-refined methods, military field surgery. Although strict antisepsis and non-interference with wounds may prevent Tetanus, we are not in a position to say absolutely that it does so. From what I have seen of Tetanus in India, when it does occur it runs its course very rapidly to a fatal termination, and so is not very amenable to treatment. Indeed, it must be *striking to a new arrival in this country how swiftly death supervenes*. Acute cases prove very acute : chronic cases are infrequent. There has been much discussion *on the difference in type between diseases at home and those seen in India*. Certainly the latter are asthenic among imported horses, especially Australians. But this is especially due to climate, and so we find it most marked during the rains. In India the hot weather is a period of rest for the land and indigenous life, but for non-indigenous animals and plants, while it is one of enforced quiescence, it is also most exacting on the health. Liver, skin, spleen, as the case may be, give way when exciting causes of disease come into operation, and dropsies of various kinds become frequent. Besides œdematous swellings of the legs, under the chest, in the sheath, under the jaw, etc., we find that every wound, however trivial, is associated with much effusion. Sometimes the injury is so slight that it requires the greatest care to discover whether the Œdema is traumatic or idiopathic. Thus iron tonics and vegetable bitters, such as the indigenous gentian, chiretta, and kutki, are required in abundance at this time of year. Instead of healthy processes of repair at this time, wounds become unhealthy, ulcers discharging an ichorous pus ; often they increase in size so rapidly as to become phagedænic. They require stimulant treatment. Carbolic applications no longer suffice, except that the red carbolic powder is of value in keeping away flies, and acting as a stimulant as well as antiseptic. Tincture of myrrh, turpentine ointment, and sulphate of copper, or zinc lotions, are now required. Something is especially needed to keep away FLIES, which, perhaps, convey Bursatti, and certainly directly irritate wounds and deposit eggs in them, which develop into maggots. It is scarcely possible, without actual experience, to realize the nuisance which insects in general, but flies in particular, are in a tropical country. Tolerated and all but encouraged in the bazaar, they are scarcely noticed by the natives : they actually blacken the sugar and other articles exposed for sale. They crowd in horrible force around a wound or over the body of a sick animal. They constantly irritate even healthy animals, and especially attack the inner canthus of the eye. Even thick eye-fringes do not, in many cases, suffice against them : the eyelids become swollen, and the membrane even petechiated, tears trickle on to the face, and in ill-kept animals maggots form at the canthus. I have known an instance in which tumour on the side of the face resulted from maggots accumulating in the ductus ad nasum, and causing in-

inflammation with abscess. To protect the eyes, natives cover them during the day with a cloth. I have seen Bursatti at the inner canthus of the eye, probably brought thither by flies. When a wound which has been doing very well ceases to progress, and the parts around swell, MAGGOTS must be carefully looked for : sometimes they are extremely minute. When the tissues of the wound turn black, discharge a thin, watery fluid, and can be easily removed with the end of the finger, it is an almost sure sign of maggots. There are a number of agents which are effectual as dressings for destruction of maggots. Among them we may enumerate turpentine ointment, camphorated oil, and chloride of zinc lotions. Either of these also may be used to prevent attacks of the fly. Meyrick's plan, of smearing with sulphur ointment, has not always answered thoroughly with me. I now use the ointment mixed with much carbolic acid. Carbolic oil does not keep away the flies ; even strong solutions of soluble phenyl did not suffice ; cow-dung fires to windward have not answered well. Altogether, the flies in Secunderabad seem to be a most determined and enterprising race, to be kept away as much as possible by gauze dressings, and, especially, bandages whenever practicable.

Apart from the WOUNDS which occur from animals falling when out in the field or on the road, we have to deal with many due to injuries in the stable or to the carelessness of syces. Many abrasions of the surface result from hard floorings. The fronts of the knees and fetlocks, the points of the hock and hip, and the outside of the hocks where the flexor sheath bulges outwards during flexion of the joint, are the most frequent seats of these abrasions, which may attain much importance when aggravated by flies during the rains. If enough bedding grass could be obtained at all times, or sand-beds be permitted, such abrasions would seldom occur ; but horses with nothing else to do frequently amuse themselves and cause Colic by eating the bedding grass. Most of the knee and fetlock wounds are said to occur from animals falling down in their sleep ; but many, certainly, result from horses stretching too far in the attempt to reach grass which has been blown or pushed out of their range. Bandages, boots, etc., are used to protect the joints ; but when such appliances are numerous it must be taken as not creditable to the battery, and due to want of proper adjustment of heel-ropes, thorough care of bedding, and due supervision by stable-guard. We need not here enter into the question of the use of sand-beds ; suffice it to say that there are sanitary objections to them. Many cavalry officers say that the sand breaks the hairs of horses' coats, and so prevents them looking well and glossy. This state, however, generally results from use of the curry-comb to the skin, a practice of which syces are very fond. There can be no doubt that the free use of a good straw whip is the best means of keeping the skin healthy. The frequency of skin disease in some batteries is directly associated with want of thorough care of the skin. The process adopted by natives, "malishing"—friction, *sec. art.*, with the arm up to the elbow—is a very invigorating and useful process, but syces are a shifty race, and require much supervision. A very good test as to whether they do their work thoroughly is to look at the horses' ears. Any bleeding, absence of hair, or exudation around their margins is due to TICKS, of which this seems the favourite seat. These parasites are often found in large numbers closely clustered together, and firmly adhering, varying in size from a pin's point to a mustard-seed. They are, when large, of a lead colour, and contain much blood. They seem to be a distinct and well-marked species. It is sometimes thought that they come from cattle, but this is a larger form. Very large lice may often be found in the hollow of the heel, or inside the thighs, and on the scrotum—in fact, wherever the skin is thin and protected. Feeding the groom for every one found is the most effectual means of getting rid of them. Occasionally in these latter situations acutely-inflamed swellings occur, due to TICKS FROM CATTLE, it is said, and the lymphatics passing from

them may be involved in the inflammation. A little ammonia or vinegar to these lessens the pain, and they quickly disappear, but I am not quite sure whether they are due to ticks only.

SYCES are very extraordinary animals ! It must be taken for granted that the whole race is unreliable. Still they get on very well with their horses, who tolerate them in a very remarkable manner. Experience in India very shortly leads you to understand that when you are not looking at him the syce is sleeping, wrapped up in his horse's jhool, eating, or larking. If sent out to give the horse exercise, he meets some friends similarly occupied, and they "loaf" along, jabbering all the time, not looking at the horses, who learn the habit of stopping "dead" when they want to pass dung, of walking badly, and of dragging the toes. At other times, especially when sahib is away on leave, the syce is a picture of activity. Mounted on the horse, he urges it at full speed along the hard road, his reins up in the air, and his legs and arms flying all over the place. Next morning the horse comes to the sick lines with some wound or sprain, which is explained in the most plausible manner. Or it may be with a SORE BACK. I was, on first coming out, of opinion that a native's posterior would gall before a horse's back, but have since found reason to change this, like many another preconceived idea, and to accept the opinion of the experienced. Syces consider it their bounden duty, when a horse is troublesome, to let him loose. Unfortunately this country is cut up with nālās, covered with huge blocks of granite, or with small, sharp stones of the same material ; hence some nasty accidents occur to runaway horses. Some of the worst wounds are caused by the animal when going at full speed, slipping up on the paving-stones round the water-trough. I have had a few cases of Fractured Pelvis here, and one of separation of the external small trochanter of the femur. This latter lesion is a most unsatisfactory one to have to deal with. It results from a sudden wrench when the lower part of the limb is fixed. The process breaks off cleanly at its junction with the shaft of the bone. Crepitus can be detected at first, but later some backward displacement occurs, and thickening around the fragment, which in its new position interferes with the muscles of the quarter. The animal is rendered all but permanently lame. And the action of the gluteus externus being uncounteracted, the limb is brought forward in front of the other hind leg in an uncertain and dangerous manner. The patient recovers sufficiently to trot sound straight forwards, but his action is uncertain and unsafe when he turns. This form of injury must not be mistaken for Paraplegia, commonly known in this country under the name of KUMREE. Although I have had a few cases of incipient Paralysis here, I don't think I have had any true Kumree. This may be due to uniformity in the character of the air blowing over our lines ; but one important cause of the disorder is removed in the impracticability of onanism (the horses being castrated), to which Veterinary Surgeon Gunn, in his recent prize essay on the subject, attributes many cases of Paraplegia. I remember reading in a French veterinary periodical a case of ONANISM in the horse, which was considered very remarkable, although we might have thought that their Algerian experience would render French veterinarians familiar with this vice. Idleness and a stimulating climate prove predisposing causes in this country. We are not long in becoming familiar with a sort of belly-shield, covered with sharp spikes, which is used as a preventive. Kumree is generally most prevalent in moist districts, especially where a land and sea breeze alternate. Any wind which comes to us here has to blow over hundreds of miles of dry maidan, and the winds are most regular. None of them are pestiferous, in so far as I am aware, although some are very trying, notably the dust storms, when the air is dark with sand driven along at a terrific rate, and which penetrates everywhere, even more thoroughly than snow (of which we never get any here). Although

the dust proves irritating to the eyes, and its grittiness between the teeth is very annoying, no other ill consequences seem to follow this remarkable natural phenomenon ; on the contrary, the dull, sultry air becomes cooled and fresh, and revives animal life to a remarkable degree.

Doubtless you are surprised that I have not hitherto dealt with that remarkable disease known as BURSATTI: I have not done so because it is comparatively rare here. Last year being an exceptionally dry one, it was notably so. But this year I have several bad cases. There are several questions which require to be discussed in this connection. Firstly, *what is Bursatti?* It is a specific disorder, certainly ; no other produces so characteristic and special a substance as künkür. A practical acquaintance with this disorder has tended to support the parasitic theory as to its nature: the phenomena of the disorder are those characteristic of vegetable parasitic life. *It is most important to decide whether flies really convey the disease.* I have no incontrovertible evidence that they do, but consider it quite possible, and so take every precaution against such means of communication of so foul a disorder. The case above alluded to, of Bursatti of the inner canthus of the eye, seems to be strongly in support of the theory of flies as Bursatti-conveyers. *Is it communicable to man?* Certainly not *readily*. I have operated on cases of this kind with wounds on my hands with no ill consequences. The enucleation of künkür nodules, and scraping away of the morbid matter, is quite a novelty, and a very trying and vexatious one in surgical experience. For the latter purpose the finger-nail is, perhaps, the best instrument, as with it you have a great amount of touch to guide your scraping operations. I do not think any injury to yourself is likely to follow, although in one case while thus working I felt a sharp puncture beneath the nail which subsequently became the seat of a small, very painful abscess. *Do ordinary wounds become bursattic during the rains?* I do not think they do. The most doubtful cases are some stable grazes about the fetlocks ; but even here generally, perhaps always, the primary condition is idiopathic, for the fetlock is a very favourite seat of bursattic eruption. There are certain *sores which break out on the lips of horses during the rains*, some at the angle of the mouth, others on the margin of the lips lower down. In their earliest stage these are simple, bronze-coloured changes of the cuticle ; later they have hardened bases and inverted edges, an ichorous discharge, a general unhealthy appearance. Yellow, sloughing portions of tissue lie on their surface. They remind you somewhat of the ulcers seen in calves in that form of "Actinomykosis" which has been described as "Tubercular Stomatitis." Careful examination of some of them shows small künkür nodules diffused throughout their substance. Their bursattic nature has been much doubted, but I am convinced that one and all of these are due to Bursatti, on the following grounds :—They are all of the same nature, although varying in degree of development from simple bronze discoloration to an ulcer indubitably bursattic. There can be no doubt of this, after careful examination of the characters and progress of a number of such ulcers. The character of the ulcer when fully developed (notably the presence of künkür) is diagnostic. They are constitutional, their development being intimately associated with the state of the weather ; also they recur annually with the rains in certain horses ; finally, they are most intractable, but disappear spontaneously when the cold weather sets in. There are several points for consideration in treatment. The cases are so numerous that they cannot all be kept from their duty. Poisonous local applications must not be used ; powerful caustics also are inadmissible, as rendering the mouth very sore, and liable to excoriate the tongue. Thus our hands are tied very much. I generally touch them with nitrate of silver periodically, and keep the bit covered with some soft material, and the animal at work. For ordinary bur-

sattic wounds, caustic potash is one of the best applications : it forms a thick eschar, which in due time peels off, carrying much kunkūr with it. Generally this suffices, and a healthy stimulus has been imparted to the ulcer which promotes scaling ; but a second application may be necessary. *No treatment which fails to remove the kunkur is successful*, and recurrence depends on the fact that, whether by operation or caustic, we are seldom able to remove all the gritty particles, the smallest of which are the most deeply embedded. I find that the iodide of arsenicum ointment (1-6) is a useful application ; it causes a large slough, and I hope to prove it beneficial in a much weaker form in cases affecting the coronet and sheath, where we cannot afford to lose much tissue. Professor Morton suggested its use. Bursatti ulcers on the sheath are a nuisance : they are most awkward to dress, on account of their inaccessibility ; the parts are naturally dirty and exposed to friction, and the disease seems to be communicable from one part of the skin to the other by contiguity of structure. Although we hear so much of the "cure" of Bursatti, I have never known a thorough recovery. I have seen and sent out many cases patched-up, but with recurrence of special climatic conditions the disease has broken out afresh, generally in a more virulent form. Veterinary Surgeon D. C. Pallin has recently shown me a case of apparent cure, in which the kunkur is detectable as hard concretions beneath the skin of various parts of the body. Of course, Bursatti cicatrices must be looked for carefully in examination as to soundness of horses in India.

There are some little points of difference between the manifestations of disease in India and at home which require comment. Before I had been a month in the country I saw two cases described as "peculiar exfoliation of horn" and "hoof defective," respectively. They were the disease commonly known as CANKER, but with two points worthy of notice : firstly, the disease, with strict anatomical accuracy, had affected only those portions of hoof which consist of frog-horn, *i.e.*, the frog and the coronary band, the latter being especially well-marked and distinct ; secondly, it being the hot weather, the parts, instead of discharging a high-smelling, grumous fluid, were all but dry, and the strings of the disintegrated horn were small and fairly hard. One horse belonged to native cavalry at Poona, the other to artillery at Secunderabad. I have had two cases in which deep-seated accumulations of pus in the foot have failed to manifest themselves in the usual way until after a very great lapse of time, and another in which separation of the whole horn from the sensitive sole was unrecognised until the animal had been cured some three months, and was being shod. Another effect of the dryness and hardness of the soil throughout a great part of the year, is the extreme prevalence of Ring-bone and Sand-crack. RING-BONES develop here most rapidly ; they are especially frequent among the field battery as compared with horse artillery horses, and are, perhaps, the most fruitful source of unfitness for further service. When I first came herè I was unprepared for so many cases of Ring-bone, but I soon recognised the actual state of affairs. Horses of *all* breeds are liable to this serious disease, but I look upon Australians as specially predisposed, probably from hereditary influence. It is wonderful how frequent Ring-bones are among young "walers" on importation. I would not have it supposed that I have fallen into the error of considering the naturally large pasterns of these animals as diseased : it is not so. I always, in dealing with the hocks and pasterns of young Australians, if the corresponding joints are alike, and the pasterns proportioned to the hocks and knees, and there is no impediment to action, pass the animals as "sound" in this respect. I believe the first horse-breeders in Australia could not afford to purchase sound English sires, so bought animals with "only a Ring-bone," the progeny of which we now receive either affected on arrival or liable to throw out Ring-

bones when put to even moderate work on our hard soil. We very soon learn to distinguish between that thickening of the skin which results from pressure and friction of the heel-rope shackle, and true Ring-bone. The subject of HEEL-ROPES requires a little consideration. We get experience of picketing in this country, compared with which that acquired at home becomes insignificant. We see injuries from heel-ropes rather frequently as a result of carelessness on the part of the line-guard. Sometimes horses draw their picket pegs, and injure themselves seriously. I have known one "draw" the heavy piece of granite with a ring in it which is preferably substituted for a peg, and so cause serious injury. It is a matter of sick-line routine to see that the lame leg be kept without a heel-rope. The following are some of the questions which are likely to crop up about heel-ropes :—

I. What kind of shackle do you prefer ?

II. Ought the shackle to be fixed above or below the fetlock ?

III. Are double heel-ropes required ?

IV. Do injuries result from the use of heel-ropes ?

At this station the old-fashioned leather loop shackle is in use. Its opening can be shortened to fit any pastern by lashing its thong around more or less frequently. The natives make a very simple and sensible shackle of rope, with a button at one end and a loop at the other ; it also has a loop for attachment of the heel-rope. In one battery here a very neat pattern shackle has been used, consisting of leather in the main, with steel fastenings ; but it was found in the rains that all these required to be shortened, because the leather part relaxed, and the metal caused sores of the skin outside and behind the lateral cartilages. This is not the place to enter at more length into the subject of shackles.

Custom generally leads to the shackle being placed below the fetlock, and this, no doubt, is the best method ; firstly, because the parts there are better adapted to stand pressure ; secondly, the shackle is less liable to slip from the pastern ; thirdly, the pastern region contains several joints, and thus the restraint is less irksome than a strain on one unjointed part. Thus we have to argue from abuses of the shackle. When legitimately used it should not press on the limb nor strain it in any way, then it will cause the horse no inconvenience ordinarily, while restraining him sufficiently in emergency, and will be worn with no more inconvenience than a man experiences from a collar or a lady from a bracelet. But syces *will* bind on shackles too tightly, and *will* tie up horses "fore and aft," so as to restrain their liberty of movement. Sometimes the shackles, when not kept greased and pliable, cause nasty sores. I have a case in hand at present in which, to prevent the patient scraping his Bursatti-affected fore limbs together, I have to keep them apart by fastening each to a peg on its own side of the horse. The animal strains at the ropes used for this purpose in a perfect *furore* of irritation. I have had cases of strain of the hock and fetlock in consequence of the animal dragging at tight heel-ropes, and I have a suspicion that some hip cases which I have had under treatment were caused in this way. Double heel-ropes certainly are necessary only for habitual kickers.

With regard to HEAD-FASTENINGS, they are either the ordinary head-collar or a neck-strap. Occasionally we substitute a short heel-rope on one fore leg. For quiet horses, picketing on the "bush system," with a single rope on one fore leg, is the best and simplest plan. This method is well known in Australia, and advocated in Mr. Meyrick's work on "Prevention of Disease, and Stable Management in India ;" it was specially recommended for military purposes by Veterinary Surgeon (First Class) E. T. Cheesman, long ago ; I adopt it at my sick lines when horses have to stand in the open, and it answers well.

SAND-CRACKS a short time ago became very prevalent in our battery ; they

are frequent here at all times, but especially during the hot weather. In this case the shoeing was very fair, not much heat used in application, and the feet well shortened. Careful inquiry led to the discovery that almost all the cases had occurred since a certain officer went on leave, and in his division of the battery. He used to have the feet dressed regularly with an oleaginous compound, and when he went away gave no instructions that the practice be continued. The feet lost their accustomed protection, and began to split. An allowance of castor oil from the line fund and daily application made matters all right again. Government supplies us out here with some useless implements called plastering-irons; they are convertible into firing-irons. I have recently had one made into a sand-crack firing instrument, which answers very well, and proves much smarter, cleaner, and more expeditious, also more under control, than the ordinary firing-iron used for this purpose. A friend of mine, with equal audacity from an official point of view, has converted an ordinary writing eraser into a useful neurotomy knife.

Mr. Sheather's recent excellent paper on "CONTRACTED FEET" has been read by me from the VETERINARY JOURNAL with the greatest interest. Feet grow very rapidly out here, and the effects of shoeing, good or bad, are very marked. When I first came out I saw a case of a horse affected with Navicular Disease, so I diagnosed. I prognosed accordingly. I found the animal with small, blocky feet, going on the toes, wired in at the heels, without any other cause of lameness perceptible. He had been shod by natives recently. Proper European shoeing gave my diagnosis the "lie direct" in six months' time. The feet became good and open, and the action sound. My case of Navicularthrititis was *in nubibus*, but I had learnt a lesson of the effects of native shoeing! A certain number of NATIVE ARTIFICERS belong to each battery or regimental forge. They become very handy, expert, and useful under European supervision. They work with very simple tools and make the most of small means, as all natives can. They are Mohammedans. It is convenient for operations, when the hot iron is necessary, to have these men at hand. They bring a native bellows (or a pair) and a little charcoal, if necessary a small anvil. They make a fireplace by forming a small bank of wet clay around the nose of the bellows, put charcoal in front of it, blow for a minute the lighted charcoal, and have the iron ready in a very short time. The bellows is very simple, being a piece of skin narrowing to a nozzle at one end, and bound by two flat pieces of wood at the wide end. By special action of the hands, air is admitted at the wide end, and forced out in a remittent blast at the narrow one. It is curious to see these men, of fine physique, squatting about the forge at work, using toes and fingers equally. They relieve the European artificers of labour in turning shoes, and are very clever at minor pieces of workmanship. They make fairly good nails when properly taught and looked after. *Native-made nails* are small and light, narrow, with no marked neck, square shank, and the ground surface of the head elongated and flattened. This part fits into the continuous fullering used in the *native shoes*, which are characterized also by rough, unfinished heels, soft iron, bulging opposite each nail-hole. The nails are not driven high; they give very fair hold; but the shoes are almost always too short, so almost all feet which have been shod continuously by natives are shrunken, blocky, and contracted at the heels. *Navicular Disease and other foot lamenesses, except Ring-bone and Sand-crack, are rare.* THRUSH is only a disease of the rains. The dry and thirsty land in other seasons of the year keeps the frogs free from this disorder. CORNS also are very rare, although most horses go very fast here, especially those owned by natives. Indeed, NATIVE HORSEMANSHIP is a most interesting study. In the choice of an animal, apart from actual lameness, the various

disorders of limbs count in the minds of natives for little. Even obvious deformities are tolerated, often, indeed, unappreciated or unnoticed. At the same time colour and marks are much attended to, as being lucky or unlucky, according to shade or arrangement. The effect of these peculiar notions is that when a number of important natives are assembled horses of most peculiar colours will be seen—all sorts of piebalds and skewbalds, flea-bitten greys, party-coloured animals of most diverse kinds. Indeed, country-bred horses are often of most peculiar colours. The natives pay high prices for Arab, Australian, and English horses, also for Turcoman, Afghan, or Beluchi animals. Dealers with batches march annually all the way from the Trans-Indus regions to Hyderabad, where they obtain prices which amply pay them for trouble and risk. The natives' horses are trained very highly to extravagant paces, and at marches past the war-horses go past the saluting-post on two or three legs, or wheeling about in full charge in mimic combat. Thus, when a horse comes here for sale from the city of Hyderabad, although sent in perfect good faith of soundness and quietness, it may be found either very unsound or full of the most extravagant riding-school tricks—a marked contrast to the raw, untrained, bucking walers one sees out here. Generally the legs of these country-bred horses show signs of wear, fulness of the hocks especially; they have a certain admixture of Arab blood, which has long been utilized for improvement of horses in the Nizam's dominions, and they are distinguishable by their plethoric and fat condition, sleek but greasy and dirty coat, want of attention to the minutiae of grooming, foul mouths, yellow membranes, native shoes, and a heavy, sleepy look in some cases, the result of drugging with "*bhang*," if they have a tendency to vice. The native horse-dealers are shrewd and up to all sorts of tricks. On festive occasions the native stains the legs and tail of his horse with dye (*yenny*), and cuts the tail fantastically. He puts on most gorgeous trappings, always uses a standing martingale and double crupper, but he forgets to have the bit and stirrups clean. The *khogeer*, or native saddle, bits, etc., are described in our *Quarterly Journal of Veterinary Science in India*, for July, 1883. The Australian horses are often very much knocked up after their voyage, during which they sometimes experience great hardships; they are landed raw, and examination of them in this state requires some tact and experience. The brand-marks of dealer and breeder are of importance. Sometimes they are in most inconvenient positions, such as on the shoulder, where they are liable to constant abrasion by the trace links, if used for artillery work, or in those positions where horses are, by regulation, branded when cast, when they may lead to unjust suspicion of the animal having been cast for vice or rejected for some other reason. These marks, too, can guide the well-informed as to the strain and qualities of the horse, to an extent, and the brands of good breeders are much appreciated.

I have had a few cases of SCROTAL HERNIA since my arrival. It is always necessary to look for this in uncastrated animals when they suffer from Colic. The genital organs of the male become very relaxed by the heat of the weather, and DISEASE OF THE TESTIS, as Œdema and Inflammation, sometimes occurs.

We see a little STRANGLES here. It is frequent, severe, and of an epizootic type at a breeding establishment some thirty miles from here. This disease seems more virulent in India than at home. I have a note somewhere, but not to hand now, of inoculation having been tried with such serious results as to lead to suppression of the records of experimentation. This ought to at once settle the question, Is Strangles contagious?

I have not any intention of entering now into details of exceptional occurrences, such as how we got ready for Egypt in the cold weather of

1882, or how an order came out regulating the length of tails of artillery horses, which, if carried out, would necessitate docking about nine-tenths of the battery; but trust the rambling paper I have written may recall, to the minds of some, days spent in the dry, scorching cantonment of Secunderabad, and may call forth from them approval or otherwise of my views. I trust, too, that plain matters of every-day Indian practice will interest those who have never yet served in British India, but anticipate being called upon to do so in their turn. Let it be remembered that I give an individual experience, and so am fully aware that much of what I have written may be questioned, and much added to it.

Proceedings of Veterinary Medical Societies, &c.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Association was held on Friday, November 30th, 1883, at the "County Hotel," Newcastle-on-Tyne, the President, D. M'Gregor, Esq., in the chair.

Present: Messrs. H. Hunter, Elphick, Mitchell, A. Hunter, and Smart, Newcastle-on-Tyne; Dudgeon, Sunderland; Nisbet, Fence Houses; and Mulvey, Bishop Auckland. Messrs. Wilkinson, Newcastle, and Stevenson, Sunderland, were present as visitors.

Letters of apology were read from several members, regretting their inability to attend the meeting.

The usual routine business having been disposed of, the officers for the ensuing year were elected as follows:—D. M'Gregor, Esq., President; G. Elphick, Esq., and J. Peele, Esq., Vice-Presidents; W. W. Smart, Treasurer and Secretary; C. Stephenson, Esq., and A. Hunter, Esq., Auditors.

The attention of the gentlemen present was then drawn to the fact that after January 1st, 1884, only Fellows of the Royal College of Veterinary Surgeons would be qualified to serve as members of Council.

This gave rise to a lengthened discussion, in which several of the members expressed their regret at such a regulation, and stated that in their opinion it would disqualify many of the ablest men in the profession from being on the Council of the Royal College of Veterinary Surgeons.

It was proposed by Mr. NISBET, and seconded by Mr. DUDGEON, that Professors McCall, Glasgow; Robertson, London; and Williams, Edinburgh; be elected Honorary Associates of this Association at its next meeting.

Mr. H. HUNTER then read the following paper:—

Mr. President, Vice-President, and Gentlemen,—As our worthy secretary was somewhat at a loss for a subject for discussion at our present meeting, I promised to introduce the operations of frog setoning and neurotomy, not that I have anything new to advance in regard to them, but from a desire that these two most important, and in many instances beneficial, operations should be more frequently performed, and if possible before the various diseases for which they are applied have become so far advanced that no remedy can possibly relieve them, as this has no doubt been the cause of bringing these operations somewhat into disrepute.

Frog Setoning.

I think that in any case where you have lameness in the foot with tenderness of the frog, or around the centre of the sole, indicating either the first or

inflammatory stage of navicular disease, or a bruised condition of the sensitive sole or frog, and if the lameness is not removed after the horny sole and frog have been well thinned, and the foot or feet have been well fomented and poulticed and bled, either from the toe or coronary veins, and if the animal is a valuable one, it may be desirable to blister round the coronets and give a month's run at grass. You must now introduce the frog seton, and in many cases you will get a favourable result; in some cases of lameness resulting from picking up a nail, especially when situated at the posterior part of the foot, I have seen good recoveries from the application of a seton. I also think that in any obscure foot lameness, the operation is likely to do good and should be tried.

Before operating, the sole and frog must be thoroughly well thinned, and the animal cast. At one time, if the off foot was to be operated on, I used to do it standing, but I always cast them now, as I think it is much safer both to the operator and the animal himself, as if he struggles much there is a chance of injury to one or the other. The best mode of securing them is to cast in the ordinary way, the foot to be operated on being uppermost, remove the hobble and place one on above the fetlock sufficiently tight to prevent it slipping over the joint, then place a sack filled with straw between the two fore legs, and draw the leg down firmly on to the sack by passing the chain of the hobbles through the ring of that fixed above the fetlock, and passing it below the rest of the chain or through one of the other rings; by this means you have the foot held firmly, and you are more likely to get the seton into the position you want it, and this is most important, as if you do not get it sufficiently deep you will do no good. I always introduce it from the top, midway between the pit of the heel and the prominent bulbous part of the frog, to about the anterior third of the frog; I think this is better and safer than from below upwards. I use the ordinary flat curved needle, with coarse tape, which I leave double and tie sufficiently long to be moved freely. As soon as the hæmorrhage has ceased, blister well round the coronets and at the back of heel, also smear the seton well with it, and in a day or two dress twice a day with oil and turpentine dressing, and if the suppuration is not sufficient, apply a second blister in about a week or ten days. I usually allow the seton to remain in about three weeks; after removing it syringe for a few days with the dressing, and when the orifice is closed apply a little white lotion until the parts are hardened, and then put on a good firm leather sole with tar stopping. In conclusion, I may say that I have never seen any ill results from the operation, but on the contrary many good recoveries. I think, as a rule, the operation should be performed within three or four months of the lameness arising.

The operation of neurotomy is somewhat allied to that of frog-setoning, although it has a much wider application, and is a more drastic remedy. I have often been asked, "Is not this a very cruel operation?" To which I reply, "No, it is the most humane operation I know of," and instance the operation of drawing a tooth to the constant agony of toothache. As a rule, the animal when brought to you for this operation is comparatively useless, and you need, therefore, have no hesitation in advising it to be done, as if successful you get a great deal of credit, and if not, and the animal should break down, the loss is not great to the owner, and the animal is destroyed and put out of his misery. The first consideration before undertaking the operation is to examine the foot very carefully and determine the nature of the disease, and see that there is no suppuration going on either from pricking, bruises to the sole, seedy toe, etc., and also that the hoof is sufficiently strong to bear the wear and tear of the work he will be called upon to perform, and to see that there is no other cause of lameness higher up the limb, as in one or two instances I have seen failure result from this cause; and in

one or two cases I have known the feeling of the foot only partially destroyed, although I feel quite sure that the whole of the nerve had been divided at the seat of the operation. This I attributed to some stray branches of nerve having been given off higher up the leg, and conveying feeling to the anterior part of the foot. Of the two operations, the high and the low, I always prefer the high, as more certain to give relief. In one instance an animal was brought to us on account of lameness of the near fore foot, and after being unnerved on that leg, he was found to be lame of the other, and on examination he was seen to have been operated on by the low operation, and it was necessary to operate again higher up to complete his soundness.

The principal diseases for which this operation is performed are navicular disease, sidebones, ringbones, and contracted feet, in all of which we have had considerable success. In many cases the animals continued to work satisfactorily for many years, some of them being sold for high prices, the fact of the operation having been performed escaping notice. The mode I adopt in performing this operation is, after clipping off the hair, to make the incisions through the skin by the bistoury scissors before casting, the leg being held up by an assistant taking hold of the knee and allowing the leg to hang pendulous; you are thus enabled to gather up the skin and make a good-sized incision, taking care to get your opening immediately over the nerve, along the anterior margin of the tendon. This is a most important part of the operation, as if your openings are well placed, there is generally little difficulty in dissecting out the nerve. The orifice on the outside should be a little lower than on the inside, so that you get below the branch which crosses obliquely over the tendons from the inside. After your incisions are made place the leg in cold water for half an hour or more, then cast, and if necessary enlarge the orifices in the skin with a probe-pointed bistoury; apply your hooks to hold back the skin. I generally have a few prepared ready in case you lose one during the operation; they consist of ordinary dress hooks opened a little to fit the skin, and attached together with a piece of elastic. Then dissect back the fascia, and when the nerve is exposed, pass your curved needle and thread underneath and tie loosely around it, and you will be enabled to gently raise it and separate it from the parts below; pass a sharp-pointed curved knife under it and divide at the upper end, and then dissect out about three-quarters of an inch of the nerve and close the orifice with one stitch, and treat as a common wound. If both legs are to be operated on, commence with the outer side of the upper leg, then release the under one and draw it forward with a rope placed round the pasterns, and raise it up by placing a bag filled with hay under it; and after you have completed the operation on that side, refix the leg in the hobble, turn the animal over, and repeat on opposite side. In some cases you may have troublesome hæmorrhage, and in rare instances it may be necessary to tie the vessel, or bandage tightly from the foot to above the knee, and apply the tourniquet. I have only had a small percentage of bad results from the operation, the most frequent being rupture of the tendons, which very often does not occur until several months after the operation. In one instance I have had sloughing of the hoof, and in two instances open bursæ of the fetlock.

Some authorities assert that after a few months the nerves unite, and feeling is restored. I cannot agree with that opinion, as I have known animals continue sound for years after the operation, when, from the condition of the diseased parts, they must have inevitably become lame if feeling had been restored. I have also known cases of injury from threads, etc., years after the operation, without pain being evinced.

With these few imperfect remarks I now conclude, and hope the members

will freely express their views, and that we may have a profitable discussion.

A most interesting discussion ensued, in which all present joined, some of the members stating that they had seen many successful cases of frog-setoning, and strongly urging its trial before resorting to the operation of neurotomy. Several of the gentlemen present had performed the latter operation, but with varying success, and they found the chief drawbacks to the operation were the frequent sloughing of the hoofs, and the necessity for extraordinary care in shoeing, but were of opinion that it might be more frequently resorted to for the removal of lameness caused by sidebones in draught horses.

Votes of thanks to Mr. Hunter, for his interesting paper, and to the President for his kindness in occupying the chair, brought the meeting to a close.

WILLIAM W. SMART, *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE seventy-seventh quarterly meeting of the above Association was held in the Medical Institute, Hope Street, Liverpool, on Friday, the 9th November last; the President, R. S. Reynolds, Esq., in the chair. There were present Messrs. Moore, Elam, P. Taylor, Morgan, Faulkner, Greaves, Woods, Ross, Davie, Locke, W. A. Taylor, A. Leather, Whittle, Kitchen, Barrow, and the Secretary. Letters of apology were read from Professors Williams and Lewis, Messrs. Hopkins, Wilson, Welsby, and Roberts.

Mr. ELAM proposed, and Mr. MOORE seconded, that this Association give a donation of ten pounds sterling to the Royal College of Veterinary Surgeons' Building Fund. Carried unanimously.

Mr. WOODS proposed, and Mr. WHITTLE seconded, that Mr. Reynolds be re-elected President for the ensuing year. Carried.

Mr. ELAM proposed, and Mr. KITCHEN seconded, that the Secretary be re-elected for the ensuing year. Carried.

Mr. ELAM proposed, and the SECRETARY seconded, that Mr. Morgan be re-elected Treasurer. Carried.

Much sympathy was expressed by the members present in reference to the death of Mr. Tom Taylor, and it was proposed by the PRESIDENT, and seconded by Mr. MORGAN, that a letter of sincere condolence be engrossed on vellum and forwarded to Miss Edith Taylor. Carried.

The resumed discussions on the treatment of ringbone and sidebone, etc., as also the docking of horses (adjourned from the August meeting), were introduced, the former by Mr. W. A. Taylor, the latter by Mr. P. Taylor. The latter subject created a very animated discussion, in which nearly every one present took part. The following motion was then agreed to:—"That this Association see, with great regret, that the President of the R.C.V.S. and ex-Professor Pritchard are using their high positions to damage veterinary surgeons in the lawful discharge of what they consider their professional duty, and that this Association considers the docking of horses by qualified veterinary surgeons a necessary and justifiable operation."

Mr. GREAVES proposed, and Mr. FAULKNER seconded, that the Secretary be instructed to write a letter of condolence to Mr. Morgan Rees. Carried.

Mr. MOORE proposed, and Mr. MORGAN seconded, that a donation of five pounds be given to the Children's Infirmary. Carried.

A vote of thanks to the retiring office-bearers, and Messrs. P. Taylor and W. A. Taylor then terminated the meeting.

ALEXR. BAIN, *Hon. Sec.*

ROYAL COUNTIES VETERINARY MEDICAL SOCIETY.

A MEETING of members of the veterinary profession was held in the Great Western Hotel, Reading, on the 16th November last, when it was unanimously resolved to form a Veterinary Medical Association for the counties of Berks, Bucks, Oxon, Wilts, Hants, Somerset, and other adjoining counties, and that it be known as the Royal Counties Veterinary Medical Association.

The rules of several veterinary medical associations were submitted to the meeting, from which, with slight alterations, a code was drawn up and adopted.

The association is formed for members of the profession, students attending the recognised colleges, and pupils of veterinary surgeons.

The ordinary meetings are to be held twice a year, each person on becoming a member to pay an entrance-fee of 10s. 6d., and an annual subscription of 10s. 6d.

The following office-bearers were elected for the year, viz. :—President—Mr. G. A. Lepper, Aylesbury; Vice-Presidents—Mr. Flannagan, Reading, and Mr. Drew, Abingdon; Treasurer—Mr. Walker, Oxford; Secretary—Mr. Kidd, Hungerford.

The first meeting will be held in the Great Western Hotel, Reading, on Friday, 29th February, at 2.30 p.m. The members will dine together at the close of the meeting.

Gentlemen, by making application to the Secretary not later than the 29th of February next, and conforming to the rules of the Association, will be admitted members without any formal election.

H. KIDD, *Hon. Secretary.*

THE BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

THE first meeting of this recently-formed Association was held on January 4th, in the Bush Hotel, Carlisle, when Professor Walley, Principal of the Dick Veterinary College, Edinburgh, read a paper on "Strangles in Horses." The chair was taken by Mr. Carlisle, V.S., president of the Association, and there was a fair gathering of members, including Mr. Bell, Carlisle; Mr. James Bell, Carlisle; Mr. Potts, V.S., Wigton; Mr. J. Soulsby, Workington; Mr. Coates, Brampton; Mr. J. Dawson, Carlisle; Mr. H. Thompson, Aspatria; Mr. J. Carruthers, Wigton; Mr. Thomas Greaves, Manchester; Mr. J. Donald, Wigton; Mr. Joseph Pears, Penrith; Mr. John Little, Abbey Town; Mr. G. B. Harrison, Kirkoswald; Mr. Faulder, Cockermouth; Mr. Robson, Penrith. The Secretary (Mr. Donald) having read the minutes of the meeting in November, at which the Association was established, laid before the meeting a number of letters of apology from veterinary surgeons who signified their willingness to become members of the Society, their names being as follows :—Mr. J. F. Thompson, Aspatria; Mr. Mackintosh, Dumfries; Mr. Chalmers, Longtown; Mr. J. Howe, Keswick; Mr. B. Hoadley, Westgate; Mr. Fisher, Whitehaven; Mr. Henry Pears, Langholm; Mr. J. Young, Cockermouth; Mr. Soulsby, Whitehaven; Mr. Tait, Annan; Mr. Sommers, Allendale; Mr. Tallentire, Skelton; Mr. Watson, Ireby; Mr. Roberts, Kendal; and Mr. Walker, Bradford.—On the motion of Mr. BELL, seconded by Mr. PEARS, Penrith, it was agreed that the gentlemen whose names had just been read be accepted as members. It was also decided, on the motion of Mr. BELL, that Professor Walley and Mr. Greaves be elected honorary members; and for this compliment Professor WALLEY and Mr. GREAVES returned thanks.

The PRESIDENT, in opening the proceedings, said it was with great pleasure, yet with some degree of reluctance, that he entered upon the office of President of the young society ; and for any shortcoming on his part he must crave their indulgence. It was not his intention at this meeting to occupy much of their time. He should make way for Professor Walley and other friends who had been kind enough to honour them with their company. He thought he must attribute his election as president to the fact of his being perhaps the oldest veterinary in the county. For many years he stood alone in the county ; but now he is glad to say he was attended in the field by many other and energetic members of their noble profession, some of whom he had the honour to say had been his pupils. (Cheers.) They had named their Society—and he thought very properly so—the Border Counties Veterinary Medical Society ; and he thought they might say that Professor Walley was its godfather. He called attention to the subjects which were to be discussed at the forthcoming meeting of the National Veterinary Association to be held at the Victoria University in Manchester in the month of July next, viz., “ Our Food Supply,” introduced by Professor McCall ; “ Influenza,” by Professor Pritchard : “ Foot-and-Mouth Complaint,” by Professor Williams ; and “ Cruelty to Animals,” by Mr. Briggs. He suggested that when Mr. Briggs gave his lecture on “ Cruelty to Animals,” the opportunity would be taken by Mr. Greaves, as well as others who might be present, to say a few words on that vexed question, the docking of horses, about which so much had been said of late. He was of opinion that that operation should still be allowed, but solely by professional men, and that the use of the hot iron should be discontinued. (Cheers.) The President then called upon Professor Walley to read his paper on “ Strangles in Horses,” which Professor Walley described as a purely equine disease, which had been known in this country and many other countries from time immemorial.

The members dined at the hotel after meeting.

ONTARIO VETERINARY COLLEGE, TORONTO, CANADA.

December Examinations.—Graduates.

Frank Ardary, Jun.	...	...	Pittsburgh, Penn., U.S.
Wm. Drinkwater	...	...	Port Stanley, Ont.
David McMaster	...	...	Toronto, Ont.
Robert Beattie	...	...	Lincolnsville, Ont.
Thomas B. Cook	...	...	Glandford, Ont.
S. D. McClure	...	...	Brampton, Ont.
W. W. Thorburn	..	...	Holt, Michigan, U.S.

EXAMINATIONS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

AT the meetings of the Court of Examiners of the Royal College of Veterinary Surgeons held on the 4th and 5th January, 1884, the following students from the Royal Veterinary College were admitted members of the profession :—

Mr. T. Williams	...	...	St. Clear's, Carmarthenshire.
„ J. Mark	...	...	Newry.
„ A. J. Mullen	...	...	North Walsham.
„ Arthur Gill	...	...	Kew.
„ Wm. Langdon	...	...	Camelford, Cornwall.

Mr. Sydney Jas. Blanchard	...	Southampton.
„ Harry J. Axe	... ..	Doncaster.
„ Tom H. Higgott	... ..	Bakewell.
„ William S. Reid	... ..	Fitzroy Square, W.
„ William D. Snowball	... ..	Huntly, N.B.
„ Charles F. H. Skelton	...	Leyton, Essex.

Eleven passed ; ten rejected.

The following students passed their “Second Examination” on the 7th and 8th January, 1884 :—

Mr. W. E. W. Baldwin.	*Mr. F. T. Harvey.
„ A. Jones.	„ F. W. Leigh.
„ *G. E. Fryer.	„ E. W. M. Haydon.
„ F. E. Meek.	„ J. Farmer.

Eight passed ; five rejected.

The following students passed their “First Examination” on the 9th and 10th January, 1884 :—

Mr. F. Halliday.	*Mr. J. R. Green.
„ T. S. Newbury.	„ †R. W. Dixon.
„ W. J. Hatton.	„ H. Gray.
„ A. H. Oliver.	„ A. P. Burgon.
„ E. W. Larnder.	„ L. Barrett.

Ten passed ; six rejected.

* Marked thus passed with “Great Credit.”

† Marked thus passed with “Very Great Credit.”

Jurisprudence.

CURIOUS DISPUTE.

(From our Correspondent.)

A CASE of some interest to veterinary surgeons was heard before Judge Turner at the York County Court, recently, when Mr. George Hardy, V.S., of York, sued Mr. Charles Fleetwood, V.S., of the same city, for the recovery of the sum of 19s. 6d. for services rendered and medicine supplied. In his evidence, the plaintiff said his services to the defendant were rendered between the 18th and the 25th October, 1880. He had sent in his account, and had also put the matter into the hands of a debt collector, but he had been unable to get anything from Mr. Fleetwood. The debt collector had, in fact, reported that he was an “expert.”—His Honour : An expert ; what does he mean?—Plaintiff : An expert in law.—In cross-examination by the defendant, Mr. Hardy said he did not know that he (defendant) was a member of the Royal College of Veterinary Surgeons ; he had heard so, but did not believe it.—The defendant said he might ascertain the information on looking at the journal.—Plaintiff : If you are a member, why did you send for me?—Defendant : I didn’t.—Plaintiff proceeded to state that he attended three of the defendant’s horses five times, and supplied a dozen cough balls, for which he had charged 19s. 6d., the fee he would ordinarily have charged for one horse. He had not another case in the same yard as that in which the defendant’s horses were stabled, nor did he look in at them incidentally.

The defendant's story was that about the time named he had three horses stabled in the yard. The plaintiff came to the yard for a copy of the journal, and saw a mare that had injured herself, and had some bandages on. She had been severely cut on one of her legs, and he (defendant) had been attending her for a fortnight previously. The plaintiff saw her twice in two months. He (defendant) at length turned her out, but ulceration set in on the joint, and he then sent her to the kennels. He had told the plaintiff that he might have the joint in order to make a *post-mortem* examination of it. The plaintiff was never engaged by him to attend the animal, and on that ground he refused to pay his account.—His Honour said he believed the plaintiff's story, and gave a verdict in his favour for the full amount claimed, with costs.

Army Veterinary Department.

Gazette, January 4th, 1884.

Veterinary Surgeon John Robert Beech to be seconded for service with the Egyptian army ; dated January 12th, 1884.

John Finlayson, gent., to be veterinary surgeon on probation ; dated January 12th, 1884.

Obituary.

THE death is announced, on January 4th, of Thomas Watson Talbot, M.R.C.V.S., of Maida Vale, London, aged 54 years, who graduated in 1850 ; also of William Young, M.R.C.V.S., Southwell, Notts, a graduate of 1831.

Italy has sustained a heavy loss by the demise, at the age of 64, of the most distinguished veterinarian, and one of the most advanced scientists in the realm of biology and pathology, she has perhaps ever produced, Count G. B. Ercolani, professor at the University of Bologna, and director of the veterinary school attached thereto ; while the scientific world has every reason to regret the calamity. There is scarcely a department in the two branches of science just mentioned to which he did not contribute largely and beneficially, and he was in correspondence on special subjects with nearly all the *savants* who dealt with them. Of the 136 contributions to anatomy, pathology, physiology, biology, and other subjects, which he contributed from 1842 to 1883, the majority are of great value, notably those on the comparative anatomy of the placenta, the urinary bladder, and umbilical artery, studies on Cow-pox, Sheep-pox, Syphilis, Tuberculosis, and Entozoa ; while his "*Richerche Storico-analitiche Sugli Scrittori di Veterinaria*" is of permanent value.

Ercolani was a strong politician as well as a scientist of a high order. His political career commenced amid the momentous events which agitated Italy in 1849, and was continued by his election three times as deputy to the Italian Parliament since the unification of that kingdom, and, faithful to his convictions, he at one time suffered exile rather than violate them. He was a member of very many scientific societies and corporations, and was some time ago elected an honorary associate of the Royal College of Veterinary Surgeons.

Notes and News.

THE ANTHRAX BACILLUS.—In a report to the Paris Academy of Sciences, the French physiologists, MM. Chambrelen and Malassez, announce that they have at length succeeded in discovering, in the milk of cows affected with Splenic Fever, the bacillus of that disease. They have been successful in their experiments in the reproduction of this micro-organism, and in inoculating animals with it. The number of bacilli in the milk of affected animals is always much smaller than that in the blood, and may even be reduced to zero.

BERLIN VETERINARY SCHOOL.—The Imperial Veterinary School at Berlin may be now said to be the model for such schools in any country, owing to the great improvements that have been made from time to time. During the past season it has been attended by no less than 247 matriculated students, the largest attendance during the century of its existence. The main building, with its three lecture halls, its large well-stocked library, and numerous lodgings for officials, etc., contains also an extensive anatomical department, with very valuable collections. The pathologico-physiological institute connected with the establishment is situated in one of the new wings. The dog hospital, the horse hospital, the operating-rooms, riding school, smithy, etc., are considered the best of their kind. In a capital range of cow byres are to be found specimens of the favourite breeds of all countries, and these are kept partly for instruction and partly for the uses of the dairy. The horse hospital is capable of accommodating 100 sick horses, and it may interest our readers to know that in 1882 no fewer than 2,241 animals passed through a course of treatment here; 600 more being examined and dismissed; and 7,085 sent on to the Polyclinic. In the dog hospital 1,200 patients were treated during the same period.

SCARLET FEVER IN HORSES.—Dr. John C. Peters, of New York, lecturing recently at the Columbia Veterinary College in that city, stated that he had discovered the existence of Scarlet Fever in horses, at the same time adducing many facts in support of his theory. Grooms, he said, rarely contract the Fever, because they almost invariably suffered from it in a mild form when young. Dr. Peters expressed it as his opinion, therefore, that the day would come when equine virus would be used for the inoculation of human subjects as an antidote to that disease.

MORPHIA v. DOG POISON.—An American M.D., writing to a trans-Atlantic contemporary, complains bitterly of dog-poisoners, but says he has saved many of his dogs by hypodermic injections of morphia. He counsels every sportsman to keep a hypodermic syringe in his pocket, or close by, and with it two or three papers, each containing two grains of sulphate of morphia. When rigid back and intermittent spasms indicate disaster, without delay dissolve the contents of a package in a teaspoon with a little water projected from the syringe, which can be warmed to dissolving-point over a lamp or lighted match. Suck it up through the nozzle again, and insert the same through the skin into the loose tissue beneath it, raising up a fold for the purpose from the ribs or shoulder. If the dog is not very far gone, the entire contents of the stomach are instantly vomited, thus leaving only the amount of poison already absorbed to contend with; and the medicine, besides its first emetic effect, is one of the best antidotes, and will produce its full effect; whereas, if introduced by the stomach, would probably remain inert, owing to the general paralysis from the strychnine, this being almost the only poison employed, and the only article of access to the public that will have any certain action on dog, wolf, or others of the canine family.

HORSES IN RUSSIA.—In the *VETERINARY JOURNAL* for October last, it was stated that in the Kirghiz Steppes alone, it is estimated that Russia

possesses 4,000,000 riding horses, which appear to be very suitable for military service. The *Invalide Russe* now gives a summary of the results of a census of horses, which was for the first time carried out during the last autumn throughout the fifty-eight governments of European Russia. The object of this equine census was to ascertain what available means of transport of this character might be reckoned upon in the event of mobilisation. The total number of horses in the whole of the districts is 19,675,193, of which number 14,835,051 are stated to be fit for military service. Both the total number of horses and the large proportion (almost three-fourths) which are judged to be fit for transport, etc., work, have been an agreeable surprise to the authorities. The greatest number of horses is found in the governments lying around the middle and lower Volga, next in those watered by the tributaries of the Volga and by the Don, and then in the Lithuanian provinces.

VETERINARY HONOURS.—It gives us great pleasure to announce that our esteemed colleague, Herr Lydtin, Veterinary Adviser to the Government of the Grand Duchy of Baden-Baden, has had conferred upon him, by the Senate of the Faculty of Medicine, of Fribourg, the degree of Doctor in Medicine, *Honoris Causâ*. This distinction Dr. Lydtin has well earned, and we hope he may long enjoy it and the other honours awarded him.

Dr. Willems, principal physician to the Civil Hospital at Hasselt, Holland, has received from the Paris Academy of Medicine the prize of four thousand francs. founded by Baron Barbier, for his labours in introducing and perfecting inoculation for Contagious Pleuro-pneumonia.

M. J. B. Hugues, first-class veterinary surgeon in the Belgian Army, and a very distinguished veterinarian, has been nominated a Chevalier of the Order of Leopold.

At the meeting of the Central Veterinary Medical Society of Paris, on December 27th, Dr. Fleming, Principal Veterinary Surgeon to the British Army, was unanimously elected a Foreign Associate. He was previously a corresponding member of that society.

EMPIRICISM AND POTTERY.—In 1720, during one of his journeys to London, the horse Astbury rode became affected with a disorder in one of its eyes; he therefore, upon arriving at Banbury, consulted the ostler of the inn at which he stayed. The man, well skilled in simple remedies, fetched a nodule of the flint common in the neighbourhood, burned it to a red heat in the fire of the room in which the traveller sat, and after plunging it into water, reduced it easily into a fine powder. A portion of this he blew into the horse's eyes, to their immediate relief and present cure. Astbury watched this process; and, being attracted by the whiteness of the calcined flint, and the easy method by which it had been reduced to powder, it occurred to him, by one of those happy inferences which, empirical as they are, have been so fruitful of results in relation to scientific advance, that the same substance might be found useful as a material in pottery. Willing to try the experiment, he had some flints collected and forwarded by waggon to Shelton, where upon his return they were fired in a kiln after the ware was baked, and then pulverised in a mortar. This powder he mixed with pipe-clay and water, and tried it as a wash for hollow ware. The result exceeded his expectations: he eventually introduced calcined flint into the body of his white ware, with the best possible effect, both as regarded a larger amount of vitrification and a purer colour.—*Meteyard's "Life of Wedgwood."*

OCULAR FILARIA IN CEYLON.—Within a short distance of Wahakotta lived a celebrated Kandian oculist, whom I afterwards employed to cure a pony of a disease which in Ceylon is common to cattle and horses, but never attacks human beings; it is a worm that is somehow received into the aqueous humour of the eye; this it first distends, then dims its colour, and

eventually destroys vision. The applications which this practitioner used were, I believe, all preparations or portions of vegetables, and seemed to give great pain to the horse ; but the cure was complete, the insect was destroyed, and the eye eventually recovered its transparency.—*Forbes' "Eleven Years in Ceylon," Vol. i., p. 362.*

FOOT-AND-MOUTH DISEASE.—An inhabitant of Jerusalem writes to the *Times*, under date of December 13th, that in a great many villages of Southern Palestine this disease is raging among the cattle. The disease had never been known in that part of the world, and the owners of cattle, knowing no remedy for it, simply look on, in true Mahomedan fashion, waiting upon Providence. The writer notes that no cattle have been introduced into Palestine—a fact which may throw some light, he thinks, upon the way in which this disease is generated. But if no cattle have been introduced, it is evident the contagion has.

EPIZOOTY AMONG CATS.—The Government of Bombay has published a long memorandum on the plague among cats, which appeared at Ahmednuggar two years ago, and at Siroor last June. The Government seems to think that the plague may have some connection with the Cholera, and invites opinions on the subject.

Correspondence, etc.

AMPUTATING HORSES' TAILS.

DEAR SIR,—“Docking” of horses’ tails is in many cases beneficial and positively necessary.

The operation, when conducted in a properly surgical manner, inflicts pain which can be but of a moment’s duration.

Is the animal to be for ever a nuisance to its owner merely because he shrinks from causing him pain for an instant?

The stump is, in most cases, tender for some time after the operation, but with proper care this causes no trouble.

Compare an animal with a long dock and tail and mane, and long coat and unshod feet, with another having been docked, and mane pulled and clipped, and neatly shod.

No one can doubt that the R.S.P.C.A. are doing, and have done, real good work, but in this case they are over-stepping the mark.

Circumcision as practised in the East upon man is painful but necessary.

Some say that in docking we are acting “against the provisions of nature.” I maintain that in a state of nature the operation would be unnecessary ; but placed as the horse is in an artificial condition, we must treat him artificially.

No one would be more averse to inflict needless pain upon any animal, especially a horse, than myself ; but I should expect to be called effeminate if I opposed amputation of the tail ; and surely a man can have no worse name than that !—I remain, yours respectfully,

Ipswich, *Dec. 17th.*

ROBERT J. DAWSON, M.R.C.V.S.

STUDENTS AND PRACTITIONERS.

SIR,—In your issue of December there appears an article written by T. Carnochan, M.R.C.V.S., Kirkcudbright, on “Novel Treatment of Laminitis,” which is evidently aimed at a recent communication by Mr. McGillivray, M.R.C.V.S., Banff. At the present time so much is said and written about

the integrity and honour of the profession, that I feel compelled to inform my fellow-students that Mr. Carnochan is *not* a member of the Royal College of Veterinary Surgeons, and from the nature of his letter, does not seem likely to become one within the prescribed period. That Mr. Carnochan is a pupil of, or perhaps assistant to, Mr. Campbell, Kirkcudbright, is evident, and that, no doubt, accounts for the extraordinary nature of his communication. The employment of hypodermic injections may not be generally practised, but if Mr. Carnochan is to be taken as a guide, that form of administration would be better let alone. The dose of Inject. morph. hypoderm. quoted as a large dose, say twenty or twenty-five minims, is not calculated to affect a horse either one way or another. Five grains of morphia, hypodermically administered in painful diseases, seldom produce any appreciable effect, and how twenty-five minims Inject. morph. hypoderm. (presumably containing two grains) could modify the progress or symptoms in a case of acute Laminitis is one of those things "no fellow can understand." As Mr. Campbell seems to be the responsible individual in the case cited, perhaps he will be kind enough to state what his object was in administering the medicine mentioned; and at the same time he might throw the sage's mantle over his protégé Carnochan, and explain how he diagnosed Rheumatic Inflammation of the Meninges of the Brain, which soon rendered the animal *comatose*, and caused it to die *without a struggle*. At one time I was a supporter of the pupilage clause, but my views on that subject are now sadly shaken. Fortunately, I think, the enactment of the clause was lost, as this letter of Mr. Carnochan's shows conclusively that there are some practitioners totally unfit to prepare pupils for the profession.—I am, sir, yours, etc.,

A STUDENT.

APPOINTMENT OF A VETERINARY INSPECTOR BY THE TOWN COUNCIL OF HAMILTON.

SIR,—In the month of December, 1883, in the course of public business, and also of public utility, it became incumbent upon the above council to appoint a veterinary inspector for the burgh. Two candidates applied. The one a thoroughly-trained practitioner, with Royal diploma and having had several years' experience in the district; a man of strictly sober habits and stainless character, also bearing the best testimonials from local gentlemen and the College officials. The other, a blacksmith, with no professional training whatever, and, therefore, with no real scientific qualification for the discharge of the duties of the office. From one point of view, it looks as if the town council wished to cast a slur upon the professionally-trained veterinary surgeon. They could hardly have realised the critical difficulties and special scientific knowledge that is often required in dealing with the various diseases of cattle. These diseases are so varied, that none but a properly-trained doctor can efficiently treat them. The fact that many diseases are readily transmitted from the animal to man, and the vast influence that food has on health, are considerations which go to show the importance of having professionally-qualified men as veterinary inspectors. But for some reason or other these considerations have been set aside in this appointment, and the whole profession of veterinary surgery would seem to have been thus slighted. It looks like a complete denial by the majority in the council of the value of professional training and scientific knowledge in the treating the diseases of animals. If this be so in this case, then the same line of action would apply to medical men. The council clearly prefer untrained talent and incompetent professional knowledge to men thoroughly trained and competent. This is quackery with a vengeance. Of course, the council was acting within legal rights. But the legal rights in the case are only

technical. They are not based upon training and professional efficiency, but merely on the fact of being an "Existing Practitioner." But that does not mean a real qualification. It is simply an exemption from the penalty of the Act of Parliament. I have the high authority and testimony of Professor Fleming, President of the Royal College of Veterinary Surgeons, for the statement, that the registration of "Existing Practitioners" implies nothing more than exemption from the penal operation of the Act. The persons so registered have no legal qualification, and are neither better nor worse than they were before registration. The Royal College of Veterinary Surgeons does not, cannot, in any way acknowledge them or be responsible for them. Many of them are utterly unfit to practise or to assume any responsible position in connection with veterinary medicine, surgery, or sanitary police. It should be widely known that the Royal College takes no cognizance of or responsibility for the abilities of "Existing Practitioners." A like testimony was given by Professor McCall, of the Veterinary College, Glasgow. He certified that James Pollock, blacksmith, Hamilton, had no collegiate training, and consequently was not in possession of a diploma; and as none other than properly-qualified veterinary surgeons can efficiently discharge the duties of inspector under the Act, he hoped that the local authority of Hamilton would not pass over the veterinary profession and give the appointment to an inadequate man. Naturally, one would have supposed, that with such valuable testimony before them the local authority would at once have decided upon the merits of the case. But that authority has not done so. Why it has not done so is one of the unsolved problems of municipal wisdom, or something else. As to the interests of the burgh and the dumb animals themselves, we cannot in any sense hold the appointment to be. We have brought this case under the notice of the profession, because it affects them specially, and bears unjustly upon competent men. If it be the case in any degree that the private orders of the Privy Council override the provisions of the Act of Parliament, the profession are entitled to look into the question, and if need be to have the *order amended*. The Hamilton case is one that might be fairly taken up at the forthcoming annual meeting of the Scottish Veterinary Medical Association, to be held in Edinburgh in February. It must be a disadvantage to the country, and a discredit to the local authority, wherever an unqualified man is pushed into a position the duties of which he cannot honestly discharge.—Yours, etc.,

"A BELIEVER IN PROFESSIONAL TRAINING."

IS DRAWING OFF THE SOLES A REMEDY FOR RING-BONES OR SIDE-BONES?

SIR,—More than six months ago this Society ordered proceedings to be taken against a veterinary surgeon, for a brutal operation, very rudely performed by him, called "drawing the sole," *i.e.*, forcibly tearing away the sole of a horse's foot, ostensibly to cure "lameness caused by a small ring-bone or side-bone." The practitioner referred to performed another operation at the same time, *viz.*, deeply firing both fore-limbs from the coronets to the fetlocks. The case was heard at the Cheadle Petty Sessions, and veterinary surgeons (I am sorry to say, as usual) were found to enter the witness-box in support of a cruel operation—under an impression, I cannot doubt, that it was a true remedy for the lameness referred to. One of these (Mr. Greaves, of Manchester) stated in his evidence that drawing the sole is the best-known, and an effectual, remedy for ring-bone and side-bone lameness. The solicitor for the defence, in cross-examination of Inspector Leonard, alleged, or insinuated that the horse on whom the operation was performed had nearly recovered from its lameness as a result of the operation; and Mr.

Greaves subsequently in his evidence told the Bench there could be no doubt that the animal would entirely recover in a month or two. Another witness actually stated—"The ring-bones and side-bones completely disappeared after the operation."

Since the date of the hearing the horse has been kept under observation, and I have now to state that, after a lapse of six months, the animal is still very lame from side-bone, and has so been suffering throughout that interval. The owner (Mr. Perry) stated to-day, to my agent, who examined the horse, as follows:—"I don't think he will ever be sound again; he cannot work on the road without suffering severe pain, and I can only use him for a bit of light work on soft land." At the examination it was found that there was "still a great deal of heat in the diseased foot," and pain was expressed by the animal continually lifting its foot and resting it during the interview.

The logic of events in this case is against Mr. Greaves and the few old practitioners who are in favour of drawing soles to cure ring-bones or side-bones. No commentary is needed; a mere statement of the present condition of the animal is an utter refutation of the obsolete theory and pretended cure which you have already exposed in your columns.

Two things, however, should be stated. (1) I am quite sure that Mr. Greaves, though mistaken in this case, is no upholder of cruelty; on the contrary, he is a member of the Committee of the Manchester Branch of this Society. (2) All your readers know that when ring-bones and side-bones are forming, the animals suffer acute pain, and that in the course of time such formations sometimes become callous and painless. This rule will, perhaps, apply to the horse in question; for by-and-by the animal may be cured, as far as pain is concerned, by the formation becoming callous. At present, however, there is still a good deal of heat and pain, as already stated. The firing of the tendons did, no doubt, relieve the overshot fetlocks to some extent; and if that operation had been performed without tearing the sole of the foot, of course no proceedings would have been taken by this Society, which would have regarded such treatment as fairly within surgical practice. (3) In the language of your article in the last August number of your Journal, I would add, "Operations which are needless and painful cannot be defended, and must come under the designation of cruel; and cruelty to animals is a charge which most gravely compromises the good name and the attributes of veterinary surgery when practised by members of the Royal College."—I am, sir, yours faithfully,

JOHN COLAM, *Secretary.*

Royal Society for the Prevention of Cruelty to Animals,

105, Jermyn Street, St. James's, London, S.W.,

January 18th, 1884.

BUFFALOES' MILK.

DEAR SIR,—With reference to "A Veterinary Surgeon's" inquiry regarding the above, having a good deal of Indian experience, perhaps I may be allowed to inform your correspondent that buffalo beef is never used *in India*, by either Europeans or natives, for food, but that the milch animal is kept by both for *milk* only.

This milk is richer (Professor Parkes) in all the ingredients, *i.e.*, than those in either cow, goat, or asses' milk.

The object of the Marquis of Lorne, I should imagine, to be an endeavour to increase *the milk* supply. By doing this through the buffalo, the great advantage would be gained in the conservancy of home-bred cattle becoming more available for meat.

Bareilly, *Nov. 24th.*

J. J. P.

TWO SIDES TO A STORY.

SIR,—Under this utterly inapplicable title, some person who attempts to hide his identity behind the signature of “Council-man,” in your last number, asserts that the veterinary schools have done nothing for professional progress, and that the individual members of Council ought to have the entire credit of all our advance. That the Council officially and collectively are the authors of all changes, is necessarily true; but that any member of that body should stand up and say “alone I did it,” or even “alone *we* did it,” is simply impertinent egotism.

Without insisting that the Council have frequently done that which they ought not to have done, and left undone that which they ought to have done, I do maintain that a man may fairly and honestly believe such an accusation open to discussion. Personally, I believe that the Council during the last twelve years has worked well for the common good, and succeeded in achieving a great success, the benefit of which the profession will some day feel. I have also a strong opinion that they would have done much mischief, had not the schools stepped in and convinced the Privy Council that wisdom was not entirely confined to the representatives of the profession. I quite allow that the Council is representative of the profession. When, by the effect of the matriculation examination, the profession is altered, then the Council, still representative, will be somewhat different.

Narrow-minded attacks upon men whose opinions differ from our own, and upon institutions our own deficiencies prevent us from understanding or appreciating, will, probably, exist for all time. Meanwhile, we can only hope that improved education may increase our understanding, and enable us the better to widen our grasp of other men's acts and arguments.

“Council-man” should study carefully the application of the old fable of “The Body and its Members.” The head cannot long act if the stomach refuses to do its work, the stomach cannot act at all if the hands do not collect food, and the legs must carry the body about if food is to be collected. The inter-dependence of one part upon another is no more marked in the animal body than in our corporate body. The profession depends upon the schools for a supply of members, and the schools depend upon the profession for their pupils. One is useless without the other. Harmonious working between them is productive of mutual advantage, whilst antagonism means stagnation. The undeniable fact of our rapid and upward progress is, to my mind, one of the strongest evidences of mutual help and forbearance having been forthcoming in recent years.

This progress is not the work of one or two men, or of two or three years. Twenty years ago such questions as an improved scholastic education for pupils, a higher scientific standard of examination for graduates, and a penal clause were debated at our annual meeting, and discussed in our professional periodicals. The want of sound professional feeling, the unwillingness and inability to observe or record correctly, were also faults of our practitioners often referred to. The alteration of these matters was the proximate cause of the founding of veterinary associations, and later of national and international congresses. That our literature and associations instructed our members, made us feel our defects, and imbued us with the determination to remove them, seems to me a self-evident proposition. Had not the mass of the profession been so awakened and aroused to a sense of its position, no Council could ever have forced on the measures which led to our emancipation.

The upward progress of the profession does not depend entirely upon acts of Council. The personal efforts of our professors and practitioners count for something. The impression made by a man of liberal education or high scientific attainments, is not confined to his own circle of clients and acquaintances, but acts directly and widely in favour of the profession to which he

belongs. The strong force of character, the rugged independence and professional munificence of Professor Dick, raised the status of our profession in Edinburgh and throughout Scotland. The high scientific attainments, the unwearying energy, and the great literary power of Professor Gamgee, placed him on a level with the highest European *savants*—his profession reaped the benefit. Though now comparatively lost sight of, the work done by Professor Simmonds has been of inestimable advantage to us. His connection for years with the Royal Agricultural Society of England gave an impetus to the profession we cannot value too highly. These three men contributed greatly to our advance, and they were all professors. Of the three men who represent the profession under the Privy Council, two have been professors. They possess immense opportunities for good or evil, and use them well. Our present staff of professors at each of the four schools work earnestly and well for our mutual benefit. Veterinary science and literature are indebted to them. At most of our medical associations they are forward with papers and in debate. What more can they do? Is all their work bad and selfish? Is a veterinary school like Nazareth, that we must exclaim, "Can any good thing come out of it?" No! certainly no! The schools, the practitioners, and the Council, have all put their shoulders to the wheel in recent years. Had any one of the three determined upon obstruction the other two would simply have made futile efforts to progress. This weak-kneed "Council-man," who cannot tolerate criticism, whose views of a teaching school are on a level with those of a first-year pupil, and whose idea of unity is a dull uniformity, surely speaks for himself alone. He certainly does not represent the Council. Differences are essential to progress; fearless, open expression of opinion is at all times a good and healthy thing.

Let us hear no more of one party's screaming "Alone we did it!" This sort of egotism reminds one too forcibly of the tailor in Russia, who, when the bear entered his hut, climbed up to the rafters, and after his wife had killed the intruder with an axe, came down, and strutting round the dead monster exclaimed, "*We've* killed the brute!"

Yours, etc.,

January 11th, 1884.

WILLIAM HUNTING.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from A. E. Macgillivray, Banff; J. J. Philips, Bareilly; J. Roberts, Chippenham; "A Believer in Professional Training"; R. W. Burke, Cawnpore; R. Dawson, Ipswich; J. Dowling Allman, London; J. A. Nunn, A.V.D., Lahore; T. H. Barrow, York; W. G. R. A. Cox, Newcastle-on-Tyne; "A Peripatetic"; W. J. Welsby, Liverpool; W. Hunting, London; J. Doyle, Enniscorthy; J. W. Hill, London; W. R. Davis, Isle of Man; H. Kidd, Hungerford; Professor Smith, Toronto; A. Bain, Liverpool.

BOOKS AND PAMPHLETS: *G. Armatage*, The Veterinarian's Pocket Remembrancer; The Medical Annual, and Practitioner's Index; How to Outwit the Horse; *E. Standinger*, Hundemaul Körbe und Hundefuhrwerke; Treatment of Cattle Disease in the Punjab; *H. Putz*, Ueber die Milzbrandimpfungen; *W. Zopf*, Die Spaltpilze; *D. Johne*, Ueber Athmung, Athmungsluft und Luftverderbniss; Transactions of the Pathological Society of London.

JOURNALS, ETC.: *Der Thierarzt*; *Lancet*; *Wochenschrift für Thierheilkunde und Viehzucht*; *L'Echo des Sociétés et Associations Vétérinaires de France*; *La Presse Vétérinaire*; *Live Stock Journal*; *American Veterinary Review*; *La Clinica Veterinaria*; *Recueil de Médecine Vétérinaire*; *Repertorium der Thierheilkunde*; *Archives Vétérinaire*; *Journal de Médecine Vétérinaire et de Zootechnie*; *Annales de Médecine Vétérinaire*; *Mark Lane Express*; *Revue Vétérinaire*; *American Live Stock Journal*; *Der Hufschmied*; *British Medical Journal*.

NEWSPAPERS: *Carlisle Express*; *North China Daily News*; *Eastern Counties Gazette*; *Leeds Mercury*.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MARCH, 1884.

THE INFLUENCE OF HEREDITY AND CONTAGION ON THE PROPAGATION OF TUBERCULOSIS.

(Continued from page 113.)

Tuberculosis is recognised to be an essentially chronic disease, but not absolutely fatal; many animals are affected with it during their whole life. If the morbid principle does not attack an organ essential to vegetative or animal existence, the animal may render all the services of one which is in a good state of health; it may produce calves, furnish milk, perform labour, and even become fat. If the centre of infection is very limited, encysted or isolated, calcified or cretified, the animal will enjoy relatively good health, and perform its functions as if perfectly well.*

It is probably the same with the embryo as with young and adult animals: it may resist the action of the morbigenous cause, become developed, and even reach maturity, notwithstanding the presence of a centre of infection, which, however, remains circumscribed. This is more likely to happen if the infected organ is not very important, or the centre is encysted.

The heredity of the silkworm disease, known as *Pebrine*, presents a certain analogy with that of Tuberculosis. In this

* See a remarkable case by Jessen, in the "Wochenschrift für Thierheilkunde und Viehzucht," 1872.

affection, the virus, in the form of a microscopic fungus, is also met with in the ova, where it arrives by way of the ovaries.

The germinative faculty of many of the ova is destroyed by this fungus; but a certain number, though infected, become developed and produce silkworms, which may attain the chrysalid form, and even become perfect insects, growing new ova which the parasite soon infects. The selection and destruction of infected ova are the means employed to free sericulture from this contagious affection.

We may, then, admit that animals which were already infected, when in the state of ovum or foetus, may not only live and develop but grow and multiply, and thus play a considerable part in the propagation of certain maladies. Some clinical facts support this view, and are favourable to the opinion as to the transmission of Tuberculosis from parents to offspring, or conveyance of infection to the ovum or foetus.

König,* a district veterinary surgeon, reports that he has, on several occasions, found on the stomach and omentum of calves, six to eight days old, small fleshy excrescences which (he states) become tubercles. Veterinary Surgeon Stirnimann† has sometimes noticed very young calves affected with Tuberculosis.

Adam,‡ of Augsburg, relates an instance, from among many others, in which the lesions of the disease were observed in a calf which died a few hours after its birth, the cow being at the time affected with Tuberculosis. The cow was seven years of age, medium-sized, and examined soon after purchase. There was a frequent and difficult cough, friction sound heard on auscultation of the thorax, with dulness on percussion, and general emaciation and hectic fever—all indications of the presence of Tuberculosis. Two days before, this cow had given birth to a very emaciated calf, weighing scarcely twenty-five pounds, and so weak that it could scarcely stand. The cow and calf having died in forty-eight hours, they were both examined *post-mortem*. The carcase of the cow showed general anæmia; on

* "Magazin für die Gesammte Thierheilkunde." Jahrgang, 1853, 3tes Heft.

† "Schweiz-Archiv für Thierheilkunde." 1851, Band XI., s. 19.

‡ "Wochenschrift für Thierheilkunde und Viehzucht," 1857, p. 53.

the serous membrane of the chest and lungs were the well-known excrescences from the size of a pea to that of a fowl's egg, partly grey or yellow-tinted with red, fleshy in appearance and soft in consistency, partly yellow, solid, and cretaceous. The pulmonary parenchyma was studded with an infinite number of variable-sized tubercles, some soft, others rather firm; a certain number had undergone caseous transformation, others calcareous infiltration. With the calf the muscles were, as in the cow, discoloured, flabby, and infiltrated with serosity; all the tissues were anæmic; the pericardium contained about 100 grammes of yellowish transparent fluid, and on the peritoneum, in the vicinity of the right kidney, were five pale-red and soft excrescences, the volume of which varied from that of a bean to that of a hen's egg. Adam adds: "Although it is very rare that Tuberculosis commences during foetal life, yet it is notorious that a tuberculous cow transmits to its descendants a predisposition to the disease. The above fact is a fresh proof of the transmissibility of this malady, and should be a caution to breeders to be very circumspect in the selection of breeding stock."

The following facts are also offered in support of the heredity of Tuberculosis:—

In the *Wochenschrift für Thierheilkunde und Viehzucht* (vol. xxii., No. 20), it is mentioned that a tuberculous calf was found in the abattoir of Nuremburg in 1878; and in the same journal for 1878 (No. 6), and 1881 (No. 13), it is reported that five tuberculous calves were killed at the Augsburg abattoir.

On March 27th, 1880, District Veterinary Surgeon Butscher, of Bruck (Upper Bavaria), showed the tuberculous lungs of a sucking calf at one of the meetings of the Munich Veterinary Association.

Virchow mentions the existence of Tuberculosis lesions in the ovary and Fallopian tubes of a calf.

Semmer relates five cases of pulmonary Tuberculosis he met with in foetuses of cattle. In the first of these cases, he remarked several small nodules in the lungs of a three-months embryo, aborted by a tuberculous cow. These nodules consisted of aggregations of spherical and fusiform cells, with filamentous

ramifications. The second case was that of a six-months' foetus, also aborted by a tuberculous cow; in this foetus the lungs showed numerous white points or nodules, some the size of a pin's head. These had the appearance of round-celled sarcomata, the cells in some places being so matted that the connective tissue appeared to be completely absent; these masses of cells might be considered as the point of departure of a tubercular formation. The third case was a foetus of eight months, from a tuberculous cow; the lungs contained isolated nodules larger than in the two preceding cases, though analogous to them in structure. The two last cases were new-born calves from diseased cows; their lungs were full of nodules of various sizes and in different degrees of formation, some being in the earlier stages and others already caseified or calcified. In terminating his report, Semmer says:—"These five cases sufficiently prove that Tuberculosis may be developed during the embryonic period, and that it is readily transmitted through heredity."

Jessen found the lungs of an aborted bovine foetus, three months old, full of recent tubercles.

At the eighteenth general assembly of the Grand Duchy of Baden Veterinary Association, held at Fribourg in 1882, Fischer of Wolfach mentions the fact of a heifer, a bull, and a calf, sixteen days old, all standing in a stable at Birkendorf, and the produce of a tuberculous cow; the three were attacked by this disease, the lesions of which were found in the mother. Fischer made special mention of the calf's lungs containing a mass of grey and yellow miliary tubercles.

Müller* bought a calf derived from a tuberculous cow, which on being slaughtered, showed the lesions of Tuberculosis; more especially were they located on the serous membranes, and in the form of disseminated tubercles in the lungs. The calf was kept for two months at the Vienna Veterinary School, and fed on healthy milk; it was then killed. At the autopsy, Korzil found on the costal pleura several nodules the size of a grain of millet to that of a hemp-seed; these were white and soft. Similar

* "Oesterreichische Vierteljahresschrift für Wissenschaftliche Veterinärkunde," 1879, p. 64.

nodosities were also found on the pulmonary pleura ; the bronchial glands were increased in size, generally consistent in texture, and when cut a small quantity of fluid escaped, while the cut surface was greyish-white in colour. The parietal pericardium was covered with excrescences, and the great omentum contained tubercles. It was the same with the mesenteric as with the bronchial glands, they being tumefied and in several places transformed into a whitish-yellow caseiform mass. In the parenchyma of the liver were caseous nodules, and the lymphatic glands, greatly increased in volume, had undergone caseous degeneration. The spleen was tumefied and full of tubercles. A microscopical examination left no doubt as to the tuberculous nature of all these pathological lesions.

Müller concluded, from all these facts : 1st, That this disease is Tuberculosis ; 2nd, That it is transmitted from mother to progeny, and that the latter from the moment of birth may possess not only the predisposition, but even present the patent lesions of the malady.

A remarkable case, proving the transmission of the disease from the male parent to progeny, is published by Zippelius.* A stock-breeder, who for more than twelve years had not witnessed a case of Pneumonia among his cattle, purchased a bull in the Simmenthal, and put it to ten of his cows. The bull was found to be affected with Tuberculosis, and for this reason was killed. All the calves of the ten cows which had been put to this bull, and which could be kept under observation, had eventually to be slaughtered because of this affection. The first symptoms of the disease in the calves were manifested when they passed to adult age.

Farther proofs of the heredity of Tuberculosis may be found in the writings of various veterinary authorities, and especially in those of Chauveau,† König and Eberhardt,‡ Adam and Ott,§ Köhler and Hetjemeier,|| Esser, Kühnert, Hagen, Ulrich

* "Wochenschrift für Thierheilkunde und Viehzucht," 1876.

† "Recueil de Méd. Vétérinaire," 1873, p. 979.

‡ "Magazin von Garlt und Hertwig," Band XIX., XXXIX.

§ "Wochenschrift für Thierheilkunde," Band XX., s. 38 ; XXI., s. 61 ; XXII., ss. 41, 265 ; XXV., s. 107.

|| "Repertorium für Thierheilkunde," 1846, s. 197 ; 1857, s. 151.

Schanz,* Rychner,† Scholtz, Röttinger, Kolb, Fischback,‡ Semmer,§ etc.

In the *Deutsche Zeitschrift für Thiermedizin und Vergleichende Pathologie* (IV., 289), Göring remarks that in nearly all the reports for the year 1877, the veterinary surgeons in Bavaria concluded, almost without reserve, that in the 123 cases of Tuberculosis reported hereditary transmission was in operation, transmission being more especially marked on the side of the cow; though in 43 cases it appeared to have been transmitted by the male parent. It would also appear, according to these reporters, that all the animals attacked which had not reached three years of age, had acquired the disease by heredity, this number being twelve per cent. of those affected. In 1878, the number of cases reported by these veterinary surgeons as possibly due to heredity through the mother, was twenty-three.

Gerlach|| thought that heredity had so much influence in this propagation of Tuberculosis, that it was sufficient to have a few tuberculous bulls in a herd to infect the whole, if in-and-in breeding was the rule. Johne¶ is entirely in accord with Gerlach, and the numerous observations given by him prove that there can be no doubt as to the fact.

It is only rarely that we meet in veterinary literature with the history of cases of Tuberculosis, *which are maintained through a long series of successive generations in the animals of one and the same family*; though, nevertheless, transmission from individual to individual in the same genealogical line is a fact which cannot be ignored by veterinary surgeons and agriculturists.

It will suffice at present to cite a fact reported by Fischer, of Wolfach, at the Veterinary Assembly held at Fribourg in 1882. In his district there was a stable, all the cattle in which were descended from a tuberculous cow; these were two cows of the first generation, two cows of the second, and a heifer of the third;

* "Mittheilungen aus der Thierarz." Praxis in Prusse. Band VIII., s. 182; XV., s. 81.

† "Encyclopédie," 1837.

‡ "Mittheilung. au der Thierärz Praxis im Preuss." Band II., ss. 101, 103; VI., s. 13.

§ "Oesterr. Vierteljahr. f. Wissen. Thierheilkunde." Band IX., s. 10.

|| "Fleischkost des Menschen," 1875, p. 52.

¶ "Deutsche Zeitschrift für Thiermedizin," 1883, p. 77.

and all these had to be killed in the course of the five last years, because of being affected with Tuberculosis.

The fact that Tuberculosis has not been generally observed in animals descended from tuberculous parents, except at an *advanced age*, and after they, themselves, have brought forth young, has given rise to two different opinions. According to the first of these, already alluded to, there are found among the animals already infected before birth, a certain number in which the primary focus of infection remains localised, or at any rate momentarily arrested in its development, at the same time that the morbid process is confined to organs the least important to the maintenance of life. In such cases it often happens that cattle are killed because of some quite different disease from Pulmonary Phthisis, or that they die from the latter malady at a later period; and it is only at the autopsy that the lesions of Tuberculosis are discovered. If death has been due to this disease, it is because it has gradually invaded one or more important organs, or had suddenly disturbed or altogether suspended the function of one or several of these.

The second opinion, which is older and more universal than the other, is to the effect that *animals descended from tuberculous parents, inherit a special predisposition to the disease*. In human medicine an analogous, if not identical opinion has been entertained from the earliest times up to the present day. This is shown in the following remark by Morton : *—“ *Dispositio etiam hæreditaria sæpe sæpius Phthisin pulmonarem infert, cum omnibus sit satis notum, natos a Phthisicis Parentibus in eundem morbum esse proclives.*”

And Home † describes the characteristic signs of this predisposition in these terms :—“ *Huic morbo maxime obnoxia est ætas inter vigesimum et trigesimum annum et forma, quæ gaudet humeris alatis, collo longo teneraque, statura procera et molli musculorum compage.*”

Is there a special predisposition to Tuberculosis among animals,

* “Opera Medica.” Editio ult. emendatior. Amstelodami, 1698. Lib. II., cap. i., p. 36.

† “Principia Medicinæ.” Third edition. Amsterdam, 1764. Section IX., p. 133.

and do they exhibit analogous pathognomonic signs to those here described?

It is undeniable that the majority of the descendants of tuberculous animals have the neck long and slender, chest narrow, sides flat, shoulders thin and fleshless, and that they are "leggy" and their muscles small.* But it is also none the less true that among tuberculous animals there are cows and oxen full of vigour, well formed, and attaining considerable weight, just as there are among them fat beasts whose exterior would not betray their phthisical condition.

These facts have their analogues in the history of human Tuberculosis; and it is, indeed, astonishing that in the presence of this evidence the existence of a predisposition to, as well as the hereditary transmission of, the malady should not have been accepted without discussion.

Among the adversaries of the old opinion relative to the predisposition to Tuberculosis, we may mention, as one of the most ardent, the illustrious Professor Cohnheim,† who maintains that man is no more predisposed to it than he is to Syphilis; that the hectic state is not the lot of the predisposed, but that of the individual already diseased; that the effect of the malady is confounded with an imaginary hypothetical cause; and that, finally, those only are tuberculous into whose bodies the tuberculous virus, received from without, has infiltrated and exercises its morbid action.

Cohnheim's opinion has, up to a certain point, its *raison d'être*, so far as mankind is concerned, the predisposition to Tuberculosis, inherent in the human species, being beyond doubt, and the belief in individual predisposition to this disease having become too deep-rooted and too generally spread. His assertion with regard to contagion is otherwise justifiable, and should

* "There can scarcely exist a doubt as to its being hereditary; this constitutional taint being remarked in different breeds, as associated with a particular physical conformation and temperament. Sex would also appear to be a predisposing feature in its production, cows being by far the most frequently affected. Animals of a lymphatic or nervo-lymphatic temperament, attenuated figure, long limbs and narrow chest, are apparently those most liable to be attacked, or to produce stock which will be phthisical."—*Fleming*, "Veterinary Sanitary Science and Police," vol. ii., p. 369.

† "Die Tuberculose vom Standpunkte der Infektionslehre." Berlin, 1880.

change from indifference to circumspection those who believed themselves altogether exempt from all predisposition ; while, on the other hand, it will allay the fears of those who suspected the existence of this predisposition in themselves.

According to the opinion of the illustrious professor, it ought to be admitted in every case that no person—not even those who are said to be predisposed—can become tuberculous without having been in contact with the special morbigenous agent of Tuberculosis.

Cohnheim's views are not without value to the veterinary surgeon, although, looking at the results of experiments accumulated up to the present time, they cannot be accepted to their full extent.

In appreciating the facts of which we are cognisant, even in leaving out of account the existence and the hereditary transmissibility of the general predisposition to this disease, which is incontestable in the case of cattle, pigs, and rabbits, the cause being found in the abundance of connective tissue in them ; we are struck with the circumstance, that the majority of tuberculous animals furnished by a determinate population is composed of those which are related by ties of consanguinity. Compared with these, the number of victims the disease makes among cattle not related in this way is inconsiderable.

If it is desired to absolutely deny the infection of consanguineous animals during intra-uterine life, as well as that which we believe takes place through the medium of the udder, in order to explain the greater frequency of the malady among animals of the same family, the circumstance that these are much more frequently in contact with each other than with other animals should be invoked, *or their greater receptivity for the tubercular virus should be recognised.*

It cannot be denied that the number of victims to Tuberculosis increases with the improvement in, or specialization of, the breeds of the domesticated animals. The complaints so often heard among the breeders of pure stock, because of the considerable losses Scrofula and Tuberculosis occasion among these animals, support the opinion which attributes to hereditary transmission a notable *rôle* in the production of these maladies. It is more particularly the breeders of pure-bred pigs—races improved

by the introduction of eastern breeds, which have such a marked predisposition to obesity—who complain of the losses caused by scrofulous affections. And does not Tuberculosis also make considerable ravages among certain of the most important strains of the Durham breed of cattle? Note the fact of a cow of this breed, four or five years old, being sold for £2,400 to go to America, where it died of this malady a few days after its arrival. And do not the breeding stock bought in Devonshire for the imperial cow-sheds in Auvergne propagate the Tuberculosis in that fair domain?*

The great receptivity for morbigenous agents which is observed so frequently in high-bred animals, and which might be almost considered as one of their typical characteristics, is noted not only in the bovine and porcine species, but also in sheep and horses, as well as nearly always and everywhere among cultivated plants. This strong tendency among high-bred animals to contract disease, will ultimately fix a limit to those special varieties produced by in-and-in breeding.

With regard to Tuberculosis, we may specially consider, as causes inherent to the development of the predisposition, the ever-increasing mass of connective tissue in these improved and improving breeds of cattle and pigs, more and more specialized for the production of milk and fat. That extreme specialization—that exaggerated activity of the vegetative life in the absence of proportionate muscular exertion,—that fatty and gelatinoid degeneration which is met with in most of the tissues of these animals—does it not remind one of hot-house plants? This specialization, this kind of *hyperculture* once acquired, is, like every other character, *susceptible of being transmitted by way of heredity*.

Although it may not be essential to maintain in all its integrity the principle enunciated by Virchow, so far as infectious diseases, and especially Tuberculosis, are concerned, “that by

* “A number of the South Devon breed of cattle were imported to the experimental dairy-farm of Saint-Angeau, in Auvergne; . . . but all these, as well as their progeny (a cross with the *Auvergnates*), were gradually swept off by Phthisis. . . . So numerous were the cases of Tuberculosis occurring among these animals, that local observers believed the disease to be contagious.”—*Fleming*, “Veterinary Sanitary Science and Police,” vol. ii., p. 730.

hereditary transmission is not to be understood the transmission of the disease itself, but the predisposition to it, a predisposition which does not give place to the morbid disturbance except under the influence of certain external causes, or under the action of certain organic conditions brought about by the regular or irregular evolution of vital phenomena (periods of evolution),” yet we cannot reject either the idea of the existence, or that of the hereditary transmission of a predisposition.

From the preceding observations it follows—

Firstly—That heredity is not without influence on the propagation of Tuberculosis ;

Secondly—That this disease is transmitted by the male as well as by the female parent ;

Thirdly—That the transmission of the morbid principle to the ovum or foetus in process of development, is a cause of sterility in parents, and frequently occasions abortions or premature births ;

Fourthly—That a foetus infected with Tuberculosis only rarely attains complete maturity, and only infrequently is born in a state of normal viability ;

Fifthly—That, notwithstanding these facts, the possible birth (perhaps even a great number of births) of tuberculous descendants which may develop and multiply the same as those derived from perfectly healthy ancestors, and without any predisposition, cannot be denied ;

Sixthly—That tuberculous parents may transit to their progeny a predisposition to Tuberculosis.

SECOND QUESTION.

What is the influence of contagion on the propagation of Tuberculosis ?

This question has been, if viewed aright, affirmatively solved in the preceding chapter, for we have furnished proof of the hereditary transmission of Tuberculosis ; this transmission being nothing more than the infection of the ovum or foetus through the medium of the parents, the reality of the infectant action of the disease has already been demonstrated, as well as its trans-

missibility from one individual to another in the special case of ascendant or descendant.

As there is, however, a difference between the transmission of a disease from the producing animal to the product, on the one hand, and from one individual to another simultaneously existing, on the other hand, we are compelled to draw a distinction between hereditary transmission and contagion, properly speaking ; and we cannot forbear from treating, in a special manner, of the conveyance of this disease through actual contact, that is *from one animal to another*, both existing at the same time, and enjoying life essentially independent of each other.

The contagiousness of Tuberculosis has been admitted from very remote times, as will appear from some quotations we are about to give ; but it should be remarked that the number of those who have questioned this contagiousness, or who have denied its existence, is greater than those who have professed themselves believers in its communicability.

Dr. Ruhling, who occupied himself with this disease in the general utility dissertations of Gottingen (*Gemeinnützige Abhandlungen*), published in 1774, says, "The disease is also transmitted to other healthy animals, the transmission taking place by the contact of those which stand beside each other in the stable and reciprocally lick each other, or inspire the air which has passed from the lungs of diseased animals. Frequenting the same pastures may equally suffice for this transmission."

The following is a very significant passage, extracted from the fourth part of Krunitz' Encyclopedia (Berlin, 1787, page 180) :—" Besides, the heifers exhibit an ardent desire to copulate, and, which is remarkable, scarcely are they pregnant than they abort. In opening cattle which have been slaughtered, the first stomach, kidneys, and surface of the lungs are found covered with pustules similar to dried mulberries, or suppurating."

Fromage de Feugre* says, "The veterinary surgeons (*les hommes de l'art*) are agreed that this malady is not contagious, *although some cattle-owners think differently.*"

Huzard,† who, in the last ten years of the past century, had

* "Dictionnaire de Rozier," Tome V., page 336; article, "Phtisis."

† "Instructions Vétérinaire."

observed Tuberculosis among the milch cows in the neighbourhood of Paris, declared that many veterinary surgeons considered the disease to be *contagious*, and that certain physicians believed human Phthisis to be also communicable.

Spinola* mentions, among the causes of Tuberculosis, *contagion* as a possible cause.

Cruzel† categorically declares that this malady is contagious. "Much has been said as to the danger there is, so far as the health of animals is concerned, in keeping them in low, small, and badly-ventilated stables, but all has not been said in this respect with regard to Tubercular Phthisis. If there is in a low, narrow stable, containing several milch cows, only one affected with this disease, and if it has tubercles either in process of ulceration or suppuration, the air expired by it is remarkably foetid; and if this foetid air is respired immediately by another cow, it will convey the tubercular infection into its healthy lungs. . . . In this way the tubercular affection is communicated by the expired air; the facts in support of this assertion are numerous, and veterinary surgeons practising in the country may collect others almost daily."

"The following is a circumstance to which I would particularly call attention. Two working cows or oxen live in the same shed, and eat their food from the same rack or manger; lying in the same stable, they respire nose to nose. One is perfectly healthy, apparently; the other is in as good condition and as vigorous, but it coughs from time to time, and its breath is foetid. It is soon noticed that the animal which did not cough does not eat so heartily. . . . Phthisis pursues its ordinary course in the first which has been attacked, and its comrade, only emaciated at the commencement, is at length affected by the disease. If after this we do not desire to recognise in such a case the results of contagion, we may attribute them to cohabitation, to infection, or anything else we choose, but we cannot suppress the fact, or fail to see it very often reproduced in the circum-

* "Handbuch der Speciellen Pathologie und Therapie für Thierärzte," Band II. Berlin, 1858.

† "Traité Pratique des Maladies de l'Espèce Bovine," Paris, 1869, pp. 232, 244.

stances I have mentioned." And in another place he adds, "I only ask, before adopting the opinion I have just given, that the veterinary surgeon or farmer bestows attention on what passes in every stable where a number of oxen or cows are collected, and that he observes without prejudice; for this opinion I have only acquired by observation."

Two years before the above was published, Lafosse * wrote: "Now-a-days medical men, in imitation of Morgagni, begin to believe in the contagiousness of Phthisis. The facts published by Villemin appear favourable to this opinion, towards which our colleague, Dupont, of Bordeaux, has inclined for several years. This is a question which merits all the attention of observers and experimenters."

In Switzerland, Zangger † had, in 1859, declared that Tubercular Phthisis was a contagious malady in cattle.

But enough of citations; let us pass to facts.‡

The transmission of Tuberculosis may take place in different ways. *The morbid principle may arrive in the organism by the respiratory or the digestive tract; the inspired air, the food, or the drink may be the medium; and the contagium may also be transplanted by means of the generative organs (through copulation), or by accidental means, as by accidental or intentional wounds.*

As animals live together, eat out of the same manger or from the same rack, we cannot, in the case of cohabitation, determine in a precise manner the part which the air and that which the forage plays in this infection. It is impossible to admit that, as a general rule, the animals whose respiratory organs are especially attacked have been infected by the respired air, or that those whose digestive organs are more particularly affected have been contaminated by food or water. In fact, the infective matter arriving in the pharynx with the food may well produce infection, and perhaps even much more readily, in the respiratory organs of the thoracic cavity than in the digestive organs of the abdomen.

* "Pathologie Vétérinaire," vol. i., p. 646.

† "Vergl. Schweiz. Archiv," Band XV., Heft 3, seite 265.

‡ The evidence in favour of the contagiousness of Tuberculosis in cattle is abundant and strong. I have given some facts in my paper on this disease, published in the *British and Foreign Medico-Chirurgical Review* for October 1874. Others will be found in the VETERINARY JOURNAL.—G. F.

It is not, on the other hand, so easy to separate the causes of transmission of the contagion due to the act of coition, from those which are the consequence of other causes of cohabitation, if it happens that the bull and cows used for reproduction occupy the same stable.

The facts relating to contamination which we are about to consider belong to the *conditions of cohabitation*. In bringing them together, we have paid no attention to the preponderating part which may have been played by the inspired air, the forage, or the conditions relating to coition.

Stahl,* district veterinary surgeon of Waldkirch, duchy of Baden, has witnessed Tuberculosis develop in five bulls in one stable, and which were kept for the service of a commune. These bulls were not related in any way by parentage. Stahl attributes the outbreak of the disease to the purchase of a tuberculous bull which, by its presence, infected the others.

Renner† reports the following fact:—"A pregnant cow, newly purchased, was placed beside a tuberculous cow. The calf produced by the former was apparently healthy at birth, but five or six weeks afterwards it was attacked by shiverings, fever, fits of coughing, and great dyspnœa. The tuberculous cow was killed; soon after the calf showed evident symptoms of Tuberculosis, and the same disease was manifested in two other cows which stood near the sick one, and which had not had any parental relationship with the others affected."

District veterinary surgeon Fischer, of Wolfach, at the eighteenth reunion of the Baden Veterinary Society at Fribourg, in 1882, gives the following facts:—"In a stable at Birkendorf Tuberculosis prevailed for two years, not only among the animals descended from a tuberculous cow, but also in three heifers placed beside the one first attacked, and which was derived from a perfectly healthy cow. The deaths were so frequent that it was feared that Contagious Pleuro-pneumonia was the cause, and sanitary police measures were already adopted as for that scourge. In a stable at Einbach the carcass of a cow was sold for food, which the inspector had declared was tuberculous. This

* *Lydtin*, "Mittheilungen über das Badische Veterinärwesen," 1874-80.

† "Wochenschrift für Thierheilkunde und Viehzucht," 1876.

animal had been bred from a healthy cow which, when killed, was twenty-one years of age. At the same time there were in the same stable two cows, derived from different mothers, which had the pulmonary cough characteristic of Tubercular Phthisis ; an ox, also, which had a cough at this time, was sold without a warranty."

Jamm,* veterinary surgeon of the arrondissement of Lœrrach, has published the following observations, which we think worthy of notice :—In the territory of Tannenkirch there is a farm called Kaltherberg, let for three years to a farmer named Gugelmaier. An average of ten to a dozen cows, some heifers, and a bull are kept ; these animals are partly of the Schwyz and partly of the Simmenthal breed, and are all lodged in the same stable. Four years ago this farmer bought at Fribourg, where he sells his milk, a grey cow, which soon began to cough and become emaciated ; consequently it was killed, and it was then found to be affected with Tuberculosis—pleural and pulmonary—to a very high degree. Since the purchase of this cow, Gugelmaier has lost ten other cattle from this disease, being obliged to kill some and sell others. The following is the succession of losses in this farm :—

1880. June. The first cow.	1882. June. The sixth cow.
„ Sept. The second cow.	„ July. The seventh cow.
„ Decem. The third cow.	„ August. The eighth cow.
1881. Sept. The fourth cow.	„ Sept. The ninth cow.
1882. March. The fifth cow.	1883. January. The tenth cow.

In another animal—a fat heifer sold to a butcher, when it was slaughtered there were found a small number of tubercles.

In all these animals the disease commenced with a slight cough ; it did not last longer than three months. Pregnant cows generally began to cough towards the middle period of gestation ; after calving the disease progressed rapidly. It may be added, as an interesting fact, that the farmer lost, a year ago, a grown-up son, who died of Tuberculosis, and that the farmer's wife, for a long time suffering from Asthma, had been recently reported consumptive.

Veterinary Surgeon Ross,† of Achern, reports an analogous

* *Lydtin*, "Thierärztliche Mittheilungen," 1882, No. 7, p. 105.

† *Lydtin's* "Thierarztl. Mittheilungen."

case in the following terms: "In the month of April, 1878, the place of first tenant having become vacant at Obersasbach, W. was called upon to act in this capacity. In order to utilise some land placed at his disposal, in his function of schoolmaster, and more especially to provide his family with milk, he bought some cows. In about four years he was compelled to give up farming, because of the continual losses he sustained among his cows. The first he bought in 1878, but in 1879 he sold it to a butcher. When slaughtered it was found to be tuberculous in the highest degree, so that its flesh could not be used as food. The second cow was bought on January 2nd, 1879, and lived for fifty-four days in the same stable with the first cow. It was sold to a butcher on December 10th, 1880, who returned the carcase to the farmer, as it was tuberculous to an extreme degree. The third cow was purchased on August 11th, 1879, and cohabited for four months with the preceding cow. It was soon killed because of Tuberculosis. A fourth cow, purchased on December 20th, 1880, remained with the third until April 30th, 1881. It was sold on November 10th, 1881, but the buyer returned it because of an intermittent cough.

"The first of these cows came from the stable of a neighbouring farmer, who latterly had, it was reported, often exchanged his cows for others, and was compelled to have a milch cow slaughtered, because of advanced Tuberculosis. The second cow had been reared by the vendor, and no diseased animals had been in his stables for ten years. The third cow was bought from a Jew dealer, and for several weeks after purchase did not cough. The fourth cow also came from an uncontaminated source. W.'s stables were excellent and well kept, and the cows were properly fed and cared for."

Similar observations have been published by Viseur,* Grad,† Zundel,‡ Haushalter,§ and Lentz, who observed an instance of the disease becoming epizootic in the locality in which he practised, analogous to those instances reported by Huzard, Tessier,

* "Recueil de Méd. Vétérinaire," 1873, p. 881.

† *Ibid.* 1874, p. 94.

‡ *Ibid.* p. 93.

§ "Jahresberichte von Elsass Lothringen."

and D'Arboval in various parts of France, as well as by the two Belgian veterinary surgeons, Remy* and Hugues.†

With regard to the transmission of the disease by *forage and water*, several cases have already been alluded to, which nearly all occurred with young animals fed on milk from tuberculous cows.

According to Jessen,‡ it is an established fact that calves fed on the milk of tuberculous cows, even although the affection is yet latent in them, perish in from six months to a year.

Volkers relates facts which support the opinion of Jessen.

Lehnert relates in his annual report on Veterinary Medicine in Saxony for 1846, that he made the autopsy of two pigs derived from healthy parents, and sold while young as sucking-pigs. Their new owner, whose cowsheds were infected with Tuberculosis, fed them on unboiled milk from diseased cows. For four months they appeared to thrive well, but after that time they began to cough, became thin, and after six months he had to kill them. At the autopsy, exactly the same lesions were found as are noted in tuberculous cows.

Bromley,§ of Lancaster, relates an analogous case. In opening the body of a calf that had died of Diarrhœa, Zippelius found tubercular ulcers in the intestines, disposed in circles, and tubercular lesions in the intestinal serous membranes. This calf was derived from a very tuberculous cow, which had suckled it, and which was subsequently killed because of the disease.

Gerlach considers the infection of calves by milk as being, after heredity, the most important cause of the transmission of the disease. In fact, to the ingestion of the virus with the food and drink ought to be attributed the development of the disease in many cases of sucking calves and pigs which, born in perfect health, die victims of Tuberculosis.

All the cases of Tuberculosis of the digestive organs, and

* "Transmission de la Tuberculose Bovine par Cohabitation," 1881.

† "De la transmissibilité de l'Action de certain produits morbides," etc., 1880. See also a very interesting and important communication in the VETERINARY JOURNAL, vol. i., p. 373, from Veterinary Surgeon Dewar, of Midmar, Aberdeenshire.—G. F.

‡ "Wochenschrift für Thierheilkunde und Viehzucht," 1872, p. 346.

§ Fleming: "Tuberculosis," p. 36; Walley: "The Four Bovine Scourges," p. 155.

particularly intestinal Tuberculosis, mentioned by Nicklas, Von Ow, and others, may probably be ascribed to infection by food and drink.

Infection by the generative organs has not been clearly demonstrated ; though it is probable that it may take place from the male to the female, and *vice-versâ*. Zippelius and Haarstick state they have observed instances in which this mode of transmission should be admitted. And a circumstance which appears to give reality to this mode of infection, is to be found in the fact that, although rarely, the sexual organs may alone be the seat of the lesions of this malady. Jessen* gives the case of a cow which had no other lesions than those found in the ovaries and Fallopian tubes ; and Schlotterer, of Karlsruhe, found Tuberculosis of the testicle in several bulls.

In certain cases, the transmission of the disease appears to have occurred through *accidental inoculation*. At Baden (the town in the Grand Duchy of that name), Contagious Pleuro-pneumonia broke out in a stable containing fourteen head of cattle. In one of these, slaughtered because of this disease, the lesions of Tuberculosis were recognised. At the request of the owner, ten cows apparently healthy were inoculated as a protective measure, the virus being obtained from the lungs of the slaughtered animal, these organs being perfectly free from Tuberculosis, and only showing the lesions of Pleuro-pneumonia in its first stage. Care was observed only to take the lymph that flowed spontaneously from the lungs after they had been freed from blood, and this lymph was filtered and kept for twenty-four hours in a cool place before being used. A microscopical examination of it (without recourse to staining) did not reveal the presence of any organised elements. The ten cows were inoculated ; the inoculation tumours formed in five of them, on the third, eighth, eleventh, twelfth, and thirteenth days, and gradually increased in volume, while they were hard, hot, well-defined, and painful to the touch, the animals themselves being feverish.

At the autopsy of these cows, which was made in from twenty-three days to two months after inoculation, none of the alterations characteristic of Pneumonia or tubercular Phthisis were found

* “Wochenschrift für Thierheilkunde und Viehzucht,” 1872, p. 346.

except in one case, in which a few small yellow nodules were noted in the midst of a sclerous mass of interlobular connective tissue, about the size of an infant's fist, in the anterior lobe of the right lung. The inoculation tumours consisted of fibrous tissue, in the form of white, tendinous-looking, interlaced bands, almost as dense as cartilage, the meshes containing a greyish-white amorphous kind of matter. The latter contained, in its turn, nodules either spherical or a little oblong, red, grey, or yellow in colour, hard to the touch, and about the size of millet-seed.

The other five inoculated animals had no inoculation tumours, but after death exhibited very marked tubercular lesions of long standing, probably anterior to the inoculation operation.

This observation was made by one of us (Lydtin), Medical Councillor Fuchs, of Karlsruhe, acting as assistant.* At the time when this observation was made (1868), we had already formulated the following questions:—

“*a.* Should measures be adopted to prevent the propagation of Tuberculosis among cattle, this being an incurable and fatal contagious malady; and what should these measures be?”

“*b.* Have the milk and flesh of tuberculous animals any influence on the health of mankind, if consumed as food, and are they noxious? If the latter, is their action general or specific?”

“*c.* Is it necessary in the interests of human health to restrict, or eventually prohibit, the sale of these articles?”

“*d.* May the transmission of Tuberculosis be produced by vaccination, as well as by the lymph of Pleuro-pneumonia?”

Unfortunately, these questions were not, at that time, so thoroughly discussed as they deserved, and it is only now that they are attracting attention.†

Toussaint reports that a pig which he had inoculated with the lymph of a tuberculous cow, was found after death to be affected with generalised Tuberculosis.

* See “Recueil de Médecine Vétérinaire,” 1868, p. 770

† In the *British and Foreign Medico-Chirurgical Review* for October, 1874, I published an article on this malady, urging attention to its importance in a sanitary and economical point of view, and especially with regard to the public health. But it evidently did not excite the attention of the medical profession in this country, which has only quite recently become alive to its grave importance.—G. F.

After having given the results of the clinical facts and observations known to us, we will pass to those afforded by experimental research.

In 1864, Villemin, with a view to studying the infective action of human Tuberculosis, had recourse to those experimental and methodical researches which had already been pursued by Majendie, Kortum, Hebréard, Salmade, Lepelletier, Gootlad, Deygallières, Laënnec, Erdt, Buhl, Klenke, and others.

The important experiments of Villemin produced a profound sensation in the profane, no less than in the scientific world. Published and republished on every side, their results are so well known that it would be a mere abuse of the time and patience of the Congress to allude to them in detail. It will suffice to state that, as a consequence of his experiments, the illustrious experimentalist came to the conclusion that *Tuberculosis is an infectious and specific malady, capable of being transmitted from man to animals, and from one animal to another.*

Gerlach, in Germany, and Chauveau, in France, had, at nearly the same time as Villemin, made experiments to demonstrate the transmissibility of the malady, by inoculating animals with the matter obtained from cattle affected with tubercular Phthisis.

Similar experiments were also undertaken by the Veterinarians Colin, Soujou, and Court-Paul, Günther and Harms, Rivolta and Peroncito, Bagge, Bollinger, Köhne, Semmer, Biffi and Verga, Bouley, Peuch, Aufrecht, Toussaint, etc.

The different experiments to which they had recourse, were made on animals of different species and under different conditions ; so that there was no need to wait for corroborative results.

Some of the animals employed in these investigations exhibited a wonderful receptivity for the action of the inoculated matter ; others enjoyed an immunity inherent to their species or depending on their individual organisation ; while others may have been tuberculous before being submitted to experiment.

(To be continued.)

TETANUS.

BY W. R. DAVIS, M.R.C.V.S., DOUGLAS, ISLE OF MAN.

I WAS permitted in the Journal for October last to record a case of Tetanus, and now ask to be allowed to state my subsequent experience of that disease, as I am inclined to think it is somewhat exceptional.

On September 20th, I was called to see a mare, the property of P. Luce, Esq. (member of the House of Keys), and I found her suffering from a punctured wound of the coronet; a dose of physic was given, and other remedial measures taken, and she made rapid progress towards recovery. On the 4th of October, on calling to see her, I found her showing evident symptoms of Tetanus. I gave her ʒvij. of aloes, put her in a dark loose-house, and returned home feeling somewhat anxious about her. I paid another visit about 11 p.m., to find my patient just dead. On October 15th, I was sent for by Mr. W. Waid, of Ballakillmartin, to see a two-year-old colt. The animal was standing with its neck rigid and protruded, and jaws locked. I got a sheep killed, and placed the skin on the colt's back, and gave subcutaneously grij. of extract of Calabar bean every two hours, and towards morning (I stayed with my patient all night) one-grain doses of sulphate of atropia every three hours. At about 11 o'clock on the 16th the colt died. Neither of these drugs seemed to have any effect in controlling the dreadful spasms which came on before death terminated the sufferings of the poor brute. On December 2nd, at the request of Mr. Taubman, Ballachrine, I went to his farm to see a cow. I found her slightly tympanitic, grinding her teeth; pulse, 72; temperature, 103°. I considered it a case of Indigestion, although there was something about the expression of the cow's face that puzzled me: tears were flowing from the eyes, which were half closed; at intervals she would give a sort of start and open her eyes widely. I attempted to administer a drench composed of æther, assafoetida, and bicarbonate of soda. I could only get her jaws a little way open, and I found her quite unable to swallow. In persisting in trying to administer the draught, she became

dreadfully tympanitic, breathed very heavily, and commenced to stagger. I therefore punctured the rumen ; this gave her immediate relief. I had her made up comfortably for the night ; and in thinking over the case afterwards, it occurred to me that the peculiar expression was the same that I had noticed in the cases of Tetanus I had seen. In brief, in going to the farm the next day, I found this a well-marked case of Tetanus, and in spite of subcutaneous injections of atropia, death took place on the 5th.

On December 25th, P. Luce, Esq., again sent for me to see a mare, two-and-a-half years old, which was off her feed. She had a wound on the neck, caused by a rope with which she had been tied chafing her. The pulse was 48, artery very full ; temperature, 104° ; membrana nictitans protruded ; the jaws were too close to permit of a ball being given ; injections were administered, much fæces removed, and ʒij. doses of Scheele's prussic acid, in water, were given by the mouth. On the 27th, the owner shot the mare to end her sufferings, as his experience of the former case led him to think that the end was approaching.

On January 7th, Mr. Joseph Cubbon, of Kirby Farm, sent for me to see a colt one-and-a-half years old. I found this, too, a case of Tetanus : the jaws were closed, the whole body rigid, membrana nictitans protruded ; pulse, 50 ; temperature, 103.5° ; respiration not much disturbed. In this case, at the owner's request, I had the back blistered. I administered half-grain doses of sulphate of atropia subcutaneously, and gave injections, *per rectum*, of ʒij. of Scheele's prussic acid in 10 oz. of water. This case terminated fatally on the 9th.

Thus I have been unfortunate enough to have in a few months six cases of Tetanus, all of them terminating fatally. If any of the readers of the Journal can suggest any remedies with which they have been successful, I should be glad to try them, as this malady seems to be particularly rife in this part of the country. I may add that none of these animals were slung, as the owners objected to the use of slings.

THE QUESTION OF SOUNDNESS IN HORSES.*

BY A. G. ROSS, M.R.C.V.S., LIVERPOOL.

AS a subject for discussion, I have chosen that of our professional differences as to the soundness or unsoundness of horses. I chose this subject premeditatedly, in order that from the views expressed by the members of this Society, we may be able to arrive at a common basis whereon to agree, and not be made subjects of ridicule by lawyers in courts of justice, on account of our differences of opinion.

A matter of opinion is a matter of opinion ; a matter of fact is a matter of fact ; and facts are, according to a Scotch saying, "stubborn chiels and winna ding." I hope the subject will lead to an expression of opinion which may result in benefit, not only to ourselves, but to the profession.

Now, I hold that soundness or unsoundness is a matter of fact, not a question of opinion. Doctors differ, lawyers differ, and we may differ on questions as to the treatment of disease ; because, in my own experience, a remedy that proved thoroughly efficacious in one climate, and might almost be called a specific (for my part, I don't believe in specifics), was valueless in another.

I think, when called upon to say whether a horse is sound or unsound, we ought to be able to draw a hard-and-fast line, and say "Yes" or "No."

I have had some experience in examining horses, from high-priced race-horses to £10 hacks, and I have always found that seldom two veterinary surgeons could be got to agree as to whether they were sound or not.

Now, I consider that we, as professional men, should be able to say *yes* or *no* when asked if a horse is sound. As I before said, we may differ as to the treatment of disease, but when we come to a question of soundness I am altogether of the opposite opinion. I have been told that veterinary surgeons can be got to swear on one side that the horse is perfectly sound, and others can be got to swear that he is not. This is a state of things that ought not to exist, and so long as it does exist it can only tend to bring our profession into contempt.

* A paper to be read at the Liverpool Veterinary Medical Association.

Some say that they would not reject a horse for a splint. Now, I can assure you that some of the most troublesome and incurable cases of lameness that I have been called upon to treat were splints. I heard a statement made in this room, and the words made use of were, "I passed a horse with sidebones, the price being right." Now what have we to do with the price? If a person asks us whether a horse is worth the money (stating the sum) that he is about to purchase him for, let us by all means assist our client, and advise him to the best of our ability; but, on the other hand, if any one asks us to examine a horse professionally, and give a certificate as to whether he is sound or unsound, let us state fearlessly as to whether we have discovered any abnormal growth or symptom of disease which would in any way, either presently or prospectively, interfere with perfect health. Having only promised to bring forward a subject for discussion, I leave the matter in your hands; having expressed my views I am prepared to support them, and I conclude by stating that our differences of opinion in this matter not only injure us in public estimation, but lower us in social status.

INVESTIGATIONS AND OBSERVATIONS ON ANTHRAX AND OTHER DISEASES, MADE IN MARCH AND APRIL, 1883, IN THE DISTRICT OF SIALKOTE, PUNJAB, INDIA.

BY OFFICIATING INSPECTING VETERINARY SURGEON (2ND CIRCLE, BENGAL) RICHARD POYSER, F.R.C.V.S., A.V.D.

(Continued from page 93.)

The carcasses of all animals dying in these villages, as in all others, are thrown out, not buried, and consumed by natives of the Chumar caste, by dogs, jackals, and birds, by whom the flesh is certainly much more quickly disposed of than by burial; and yet, to my inquiries, I failed to discover that any of these carrion-eaters suffer or die from the effect of such food. The bones are left, and are believed to be capable of infecting the herbage and earth, like the fluid and ingesta. I have, however, no proof.

The hides are almost always removed, many being cut up in the fresh or green state, and twisted into ropes for general use, including the tying up of cattle, making and repairing agricultural implements, gear, yokes, etc. Many are sent to the village tanneries, one of which I saw at Raspoore, where the surrounding villages send hides to be tanned. Many are sent to the city in a fresh and dried condition for sale—they are seldom destroyed; they are frequently given to the Chumars for the trouble of removing them—a practice which must lead to much infection; it may even induce Chumars to poison cattle, and has led to the felonious spread of fatal diseases.

In February, 1883, at Gudarrah, two oxen and one buffalo were actually slaughtered by Chumars during the night for the sake of the hides, which had, of course, been removed. Case pending trial. Legislation is urgently demanded on the whole subject of cattle diseases.

The type of Anthrax, from what I can ascertain, generally affects the throat, fauces, neck, and chest, and is called “Gul-gotu” and “Chundri,” and other terms in other parts. I saw no cases, and heard of no recoveries; attacks are said to commence suddenly and terminate rapidly. Rinderpest, called “Wah,” or “Vah,” invariably proves fatal. I saw no cases during my inspection, but it had been very prevalent.

Foot-and-mouth Disease, called “Mo-khur,” had been and is always more or less prevalent; the natives know it is not of necessity fatal, but lose great numbers of cattle from want of treatment, simple nursing, and ordinary precaution.

I have recorded many deaths from “Hoven,” or stomachal distention; from Mange, from want of treatment; from Rabies, and from other known and unrecognisable causes, as well as a large number from age, debility, starvation, exposure, cold, neglect in general, cruelty, and overwork.

The natives know nothing whatever of treating these diseases, and adopt none, neither do they apply any such precautions as isolation or segregation, but leave the healthy with the sick, as was the case where Foot-and-mouth Disease then existed.

Owners are too apathetic and influenced by *kismet* (fate) to

observe of themselves, and voluntarily, the most simple sanitary principles.*

These matters require practically undertaking by an organised veterinary sanitary force or department, supported by legislation. If this is essential in European countries, it is more urgently called for in India.

I have long seen the futility of veterinary officers flying about the country reporting upon this and that, unsupported by legal power and the machinery to enforce it; it is astonishing to my mind how officers can be found to undertake *single-handedly* such gigantic and impossible tasks, and still more astounding to see them continue in such unsatisfactory capacities, the results of the working of which, from their comparative infinitesimal dimensions, are more likely to bring discredit than credit on the veterinary profession.

Without wishing, however, to discourage any government in even its very small efforts, or to disparage the abilities, zeal, or the quantity and quality of work accomplished by a veterinary officer when engaged—single-handed—in so good a service as the suppression and prevention of cattle diseases, I beg respectfully to point out the fallacy of such proceeding—I was going to say, economy.

What tangible and permanent influence can the sustained services of any one most energetic veterinary surgeon have over a vast tract of country like the Punjab, with its trillions of animals?

Backed by the Glanders and Farcy Act, his attendance at fairs, on Dâk lines, and in any place where horses—and cattle also, especially if they be Government property—are collected, the value of his services are undeniably great; but off the line of rail or macadamised road—that is, in the district where much of his work *must* lie—his influence can hardly be appreciable.

Through Inspecting Veterinary Surgeon George Fleming,

* I do not much believe in their caring to be helped, if such occasions give them trouble and a trifling current or immediate outlay. Do everything for the native farmer, ask him for nothing to defray expenses of isolating, nursing, treatment in general, and the spread of disease, save his cattle, and look not for a mark of gratitude in his face. On the contrary, he would think he had been treated oppressively—what he would call “zuburdusti-se.”

A.V.D., War Office (now Dr. Fleming, P.V.S., British Forces), a high authority on epizootic cattle diseases, the great prevalence of, and immense losses which these diseases cause, the heavy drain there is in a poor agricultural country, the inadequacy of the existing veterinary European officers to cope with such a state of things, have been brought to the notice of Lord Hartington, who, in a despatch, dated India Office, London, 20th April, 1882, to His Excellency the Governor-General of India in Council, says :—

Para. 2. “It appears to me that the present time is fitting to call the attention of your Excellency’s Government to the subject, than which none deserves the earlier or more careful consideration of the Agricultural Department now being organised, in accordance with the recommendations of the Famine Commission, in the several provinces, as well as in your Secretariat.”

Para. 5. “I now request that your Excellency will take the important questions of the prevalence of epidemic cattle diseases, and of the possibility of diminishing them, into your early and careful consideration.

“And I desire to be informed after such investigation and reference to the Local Governments as may be requisite, what steps have as yet been taken, and what steps it is proposed to take to give effect to the recommendations of the Commission of 1869.”

With a view to legislation, Veterinary Surgeons Queripel and Nunn have, in the VETERINARY JOURNAL for February and March, 1883, published some valuable notes on cattle diseases in the Punjab, sketching a plan for conducting the duties of a Civil Veterinary Department in India, and giving a draft of a short Act for preventing the spread of cattle diseases in that province, which Act, in 1881, the late Lieutenant-Governor did not approve of, thinking the time had not arrived for legislation. They say that “One veterinary officer would be required for each province at the onset, and as people became more enlightened, and more stringent measures could be adopted, it would be necessary to appoint a second one, if immunity from contagious diseases is desired.”

I must demur to this statement. The higher quoted number

of officers would be totally incompetent to accomplish a tithe of the work creditably and satisfactorily to themselves and their employers. I speak from practical experience afforded by my recent inspections.

The amount of work a well-organised and educated native subordinate staff, under European professional direction, could perform—the enormity and importance of that work, the distances to be got over, the difficulty and sometimes the impracticability of moving from village to village, the fearful heat that would have to be endured, the necessary halts, the results likely to accrue from being undermanned and overtaxed, from malarious climates, from sickness, etc., are questions deserving the most serious consideration.

Whatever the decision of the Government may be when the subject is earnestly taken up, it will be as well to look it straight in the face whilst there is time, and from a practical point of view.

Though I cannot regard the aim and object of small beginnings with contempt, or even indifference, provided they are exercised within a reasonable and sub-human sphere of action, it is a fact that the single district of Sialkote would be as much as—probably more than—one veterinary surgeon could executive supervise and manage, with the aid of a competent native staff.

He must be localised to be of any real service, have his means of locomotion always at hand to act at a moment's notice on his own responsibility, and stand in the same relation to his duty as a district superintendent of police stands to his. The veterinary organisation should have a not dissimilar construction to that of the police. In fact, almost every district should have its one or two veterinary surgeons, according to its size and the number of its cattle. But unless backed by law success can hardly be hoped for.

Now, these remarks will not be held irrelevant to the subject in hand. I have made them bearing in mind the gravity of the position, the welfare of the state and country, of its agriculture and commerce, and of the veterinary profession ; and I have not lost sight of the fact that the Indian Army is, to a great extent,

dependent upon healthy cattle, within and without its own borders, for its transport and maintenance.

The chief deductions to be made from my investigations are that Anthrax is very prevalent ; that the infection is presumed to be more or less present throughout the parts visited, and only awaits some exciting cause, and the contact of a suitable organism, to bring it into active operation with the fatal results known ; that so long as Anthrax prevails amongst the animals of the district, there would appear to be only one line of action to pursue, with regard to the horses in Sialkote cantonments, until immunity from the disease can be conferred upon them, by inoculation, or some other preventive ; and that is to prohibit the use of grass forage brought in from unknown places, to establish and maintain rukh-lands, selected for their freedom, if possible, from the taint of Anthrax, as well as for their suitability of position, the good quality of their forage grasses and the facility of bringing in the forage, to protect these sites from ever being used as grazing lands for cattle ; to convert the crops into hay at a season that would ensure this being well done, before the grass had become desiccated and the seeds lost ; to restore to the soil, by manuring, that which it was constantly losing, and to improve its grass and herbage growth by sowing suitable seeds, and to feed exclusively on forage derived from this source.

As to the impracticability of all this, there may be a good deal to say, and after all we may not be sure that infection may not be brought in with the *grain* forage. The same observations may apply to root (carrot) crops, or to green barley, which are now and then substituted for the bran or grain ration.

Altogether the subject is a difficult one to handle in a manner which shall be considered satisfactory and closed to argument. We are in want of more facts and proofs and fewer speculations. But I have given it my best attention, so far as the means at hand have allowed.

I am glad to note that during and since the last outbreak of Anthrax, *cremation* instead of burial was and has been adopted, and that so far as our share against the cultivation and propagation of the disease is concerned, much has thereby been done.

Further, a crematory or cinerator will be constructed as soon as satisfactory plans can be obtained, and that a metal fluid proof cart (of my own invention) for the conveyance of Anthrax carcasses to the crematory will be made, if approved of by supreme authority.

In conclusion, I would recommend that all places in which it is known that Anthrax carcasses have been buried should be fenced in, and that no crops be permitted to be grown thereon, or cut, or grazed off them.

Result of the Experiment referred to.

Anxious to obtain positive results, I instituted an experiment and conducted it as long as possible, to test M. Pasteur's theory—or to verify in India what he publishes as fact in France—relative to the inception of the bacillus of Anthrax through the medium of grass or herbage eaten off the surfaces of graves containing anthracoid carcasses.

I was extremely hopeful that Anthrax would be produced, firmly believing what Pasteur seems to have proved beyond all question. But though my experiment gave only negative results, I have not yet gone over to the opposition benches, as it may not have been properly conducted, and my trial subjects may not have been predisposed to Anthrax receptivity, not that I could define even the precise nature of the predisposing causes then required, though I am aware that horses in the *best looking condition* are perhaps the most liable.

A healthy troop mare, thirteen years old, of this class, was selected, one that had had no work, and but little exercise for months—owing to incurable exostotic lameness—sleek and fat; the other animal was an aged pony, in very impoverished condition.

(To be continued.)

Editorial.

THE NON-IDENTITY OF VARIOLA AND VACCINIA.

IT is somewhat remarkable that the question of identity of human Smallpox and Cowpox should evidently still be undecided, and that, in the face of the numerous carefully-conducted experiments by men who were thoroughly competent to carry them out to a satisfactory conclusion, but who only obtained negative results in attempting to convert Smallpox into Cowpox, the preponderating opinion of medical men, in this country particularly, should be in favour of this identity. In medical journals and text-books on medicine, this identity is unhesitatingly accepted, and seemingly without the least hesitation or doubt, and the notion is handed on from one to another—from lecturer to lecturer and writer to writer—without any scepticism or questioning, and without giving a moment's heed to the experiments and arguments which refute the notion. The leading medical journal not long ago, in referring to Pasteur's New Method of attenuation, says: "The view that Vaccinia is attenuated Variola is well known, and has been extensively adopted by English physicians. If the opinion means anything, it signifies that the two diseases are in essence one and the same, differing only in degree. . . . The variolous virus is believed to pass through the cow, and there to become attenuated, so that inoculations from the Cowpox no longer produce Variola in the human subject, but Cowpox (Vaccinia)." Now there is little indeed upon which to found this belief. A very small number of experimenters have asserted that by inoculating cows with Smallpox virus they have produced Cowpox. But of these, until recently, the only trustworthy authority was Ceely, who stated that, in one instance, after repeated attempts, he was successful in transforming the human into the bovine disease. But this success is open to the gravest doubt, inasmuch as the animal was also inoculated at the same time with vaccine, and a mistake may easily have been made. Ceely was unable to obtain the same success again, though only two or three years ago he superintended experiments on a large number of cattle, inoculated with Smallpox matter, under the most favourable circumstances, by Dr. Klein. In 1881, Dr. Voigt, Superintendent of Vaccination at Hamburgh, in the *Deutsche Vierteljahresschrift für Öffentliche Gesundheitspflege*, describes what he considers a case of successful transformation of the human into the bovine Variola, occurring on the first calf he experimented with. But it is curious to note that he also, like Ceely, inoculated the animal simultaneously with vaccine and variolous matter, though not in the same part; and therefore the success of the experiment is rendered more than doubtful, from the fact that Vaccinia could not be produced in animals inoculated with human Variola unless they had at the same time received vaccine. Long series of experiments by Commissions (notably those of Lyons, Naples, and Belgium), composed of the most eminent medical men and veterinarians, as well as by individuals in Europe and the United States, with almost unlimited resources and materials, have failed to transmute *Variola humana* into Vaccinia. Dr.

Klein's experiments (published in a recent Blue Book), most carefully and exhaustively carried out under the immediate direction of Mr. Ceely, had only a negative result.

It has been attempted by some of those who believe in the identity of the two affections, to substantiate their belief by referring to the results of Pasteur's cultivations of the virus of Anthrax and Fowl Cholera. But it is difficult to see how the result of the attenuation produced in the virus of these maladies can be used as an argument in discussing this question. For it must be remembered that Pasteur's cultivation never transforms, but only modifies the intensity or energy of the virus. Human Variola and Cowpox are, though both belonging to one family, yet essentially distinct diseases. Whether appearing originally in the cow, or transplanted from that animal to man and carried through countless generations, Vaccinia rigidly preserves its chief characteristics, which need not be alluded to here. Smallpox also maintains its most salient features from century to century, as an intensely infectious, epidemic, and fatal fever of mankind, accompanied by a general eruption; whereas Cowpox may be said to be non-febrile and non-epizootic, and the eruption is localised and very different to that of the human disease. Dr. Gregory in his "Lectures on the Eruptive Fevers," in referring to Ceely's experiments, says: "Do these experiments warrant the conclusion that Cowpox and Smallpox are identical? To me it appears that they do not. The disorders are allied (so are Measles and Scarlatina), but they are not therefore identical. . . . Unlike Smallpox, Cowpox produces no eruption, no constitutional disturbance; it throws off no contagious emanations. It can be perpetuated from man to man in a uniform state of intensity; whereas the inoculation of Smallpox produces the disorder in varying shades of severity. The local characters of each malady are no less strikingly contrasted. The variolous action goes on to pustulation, to the *acumination* of the pustule, to sloughing of the corion, and implication of the subjacent cellular membrane. The vesicle of Cowpox never loses its umbilicated character; no purulent matter forms; the areola is circular, not irregular, like that of the inoculated Smallpox."

It is very extraordinary that those who contend for the identity of Smallpox and Cowpox, overlook the fact that though, as they assert, the former can be converted into the latter, yet Cowpox has never been transformed into Smallpox; and if anything more than another is demonstrated by the cultivation experiments of Pasteur, it is that the germs of disease, when so cultivated, are not transmuted nor their action altered, so that they do not give rise to another malady of a different kind, but are only modified in the effects they produce by the process to which they have been submitted, and return again to their original virulency with the greatest readiness. When the Smallpox germ is supposed to be converted into that which produces Cowpox, it never returns to its pristine condition, but when carried back to its native and congenial soil, after only once passing through the bovine, it resolutely and continuously maintains its transformation. Surely there is nothing to compare with this in the wide domain of biology or pathology!

Take another view. It is admitted by the identity-believers that there is nothing more difficult than to effect the conversion of Smallpox into Cowpox; and this difficulty must be real, when we know that several commissions and very many individuals have utterly failed in their attempts, and have concluded that it is impossible to produce Cowpox by inoculating bovines with Smallpox virus. The instances in which the attempt has been reported as successful are very few indeed, and it may be said that they lacked corroboration, and could not be repeated when full evidence was required. But it is well known that it is extremely easy to transfer Cowpox from man to the bovine, and *vice versa*, with absolute certainty, and as frequently as may be necessary. Does it not seem something more than astonishing that the Smallpox germ should have suffered such a wonderful change in its adaptability? Its immutability when it has undergone the supposed modification or transmutation, and the very different symptoms to which it gives rise, do not appear to have received that recognition which they deserve. Had the question been examined with that care and consideration which it merits, and had the positive experiments been looked into with sufficient caution, we venture to think the number of medical men who believe in the identity of Cowpox and Smallpox would have been very small indeed. Sheeppox, in almost every point, is the analogue of Smallpox, and especially in its clinical and pathological characters; yet no one has pretended that this can be converted into Cowpox, or that it is the human disease conveyed to sheep.

STATISTICS OF BRITISH ARMY HORSES.

DEEPLY impressed with the value of statistics as applied to public health and disease, the Army Veterinary Department commenced, in 1881, to draw up tables showing the numbers, ages, descriptions, diseases, mortality, causes of inefficiency, etc., of army horses at home. As the peace strength in horses of regiments and corps in the United Kingdom averages about 13,000, it will be seen that the number is sufficiently large to afford important information, not only with regard to prevailing diseases and accidents, and the operation of Veterinary Sanitary Science, and Surgery and Medicine on these, but also the efficiency of mounted corps, so far as the horses are concerned.

It may be remarked that army horses are usually cast and sold when over sixteen years of age, not because they may happen to be worn out at that age, but for the reason that on active service they are not found to be so vigorous or so well able to resist exposure and hardship, nor to recover so quickly from exhaustion, disease, or accident, as younger horses.

It may also be noted that contagious diseases never *arise* among army horses, these being always introduced, either by remounts or through infection caught by troop horses in infected billet stables while on the line of march. This applies especially to the cases of Glanders and Farcy included in the following statistics, those at home being due to infection introduced from without, while those occurring in Egypt were owing to the disease having been introduced among army horses there by a regiment of Bengal cavalry despatched from India while infected. Glanders and Farcy are never observed to supervene upon other diseases, nor to be due to any of the causes usually asserted to be operative in their production, but are constantly due to infection.

The sanitary condition of British army horses, their efficiency, and the percentage of diseases, accidents, and mortality, compare most favourably with other European armies whose statistics are accessible to us, and especially with regard to Glanders. We hope in a short time to be able to give a summary of veterinary statistics in the different armies of Europe.

1881.

British Army in United Kingdom.

Strength of horses on 1st of January	13,051
Remounts	993
	<hr/>
Sold, including 11 to officers for chargers	1,156
Died, 162 ; destroyed, 114 ;*	276
Transferred to Cape of Good Hope	633
	<hr/>
	2,065
	<hr/>
Strength on 31st December, 1881	11,979
	<hr/>
Number of officers' chargers	1,524
	<hr/>

Average age of horses, 9 years 7½ months.

Total number on sick list during the year (including 256 brought from 1880) 7,815

Of these 6074 were cured, 951 relieved, 193 incurable, 162 died, and 113 destroyed. 322 remained under treatment on 31st December.

Of those which died, 47 were affected with diseases of the respiratory organs ; 49 of the digestive organs (including 9 ruptured stomachs and 9 ruptured intestines) ; 7 had fractured bones.

There were destroyed for Glanders or Farcy, 10 ; fractures, 60 ; other causes, such as Paralysis, surgical diseases, accidents, etc., 44.

Of the fractures, 14 cases were cured, and 4 remaining under treatment at the end of the year.

Of those cast and sold, 9 were affected with incurable eye diseases, 37 with Exostosis, 10 with bones which had been fractured and healed, 21 with Chronic Laminitis, 20 with Roaring, 51 with Navicular disease ; 648 were for old age, and 9 because of reduction of establishment ; 246 were for other causes, chiefly chronic sprains, vice, and physical unfitness.

The total percentage cast was 8·74 ; the average length of service of each cast horse was 9⅞ years, and the average price realised at auction was £10 4s. 2½ 4ths. The total died and destroyed amounted to 2·252 per cent., or slightly over 2¼.

1882.

Strength on 1st January	11,979
Remounts	4,172
Transfers from Egypt, and mules from Spain	3,325
	<hr/>
	7,497
	<hr/>
Total	19,476
	<hr/>
Sold, including 19 to officers for chargers	1,492
Died	441
Destroyed	111
Transferred to Egypt	5,997
	<hr/>
	8,041
	<hr/>
Strength on 31st December	11,435
	<hr/>

* 1 destroyed for old age (31 years).

Officers' chargers	1,212
Average age of horses and mules, 8 years $4\frac{3}{4}$ months.	
Total number on sick list, including 322 from 1881 .	9,913

Of these 7,429 were cured (including 16 cases of fractured bones), 1129 relieved, 199 incurable, 441 died, 111 were destroyed, and 604 remained under treatment on 31st December.

The largely increased numbers of sick, died, and destroyed, were owing to diseases contracted in the Egyptian campaign.

Of the deaths, 123 were from exhaustion or Anæmia, 165 from diseases of the respiratory organs, 37 from those of the digestive organs (including 6 ruptured stomachs and 6 ruptured intestines), and the remainder from various causes, such as fevers, disease of the nervous system, and surgical affections. 46 were destroyed for fractured bones, 19 for Glanders and Farcy, and 56 for other causes, such as Asthenia, diseases of the nervous system, and surgical affections.

Of those cast and sold, 7 were affected with incurable eye diseases, 22 with Asthma (broken wind), 34 with Exostosis, 11 with debility from indigestion, 43 with Laminitis, 27 with Roaring, 33 with Navicular disease, and 30 with chronic sprains. 28 were sold for vice, 33 for reduction of establishment, 82 for physical unfitness, and 821 for old age. The remainder for various diseases.

The total percentage cast was 10.65. The average length of service of each cast horse was $9\frac{2}{3}$ years; and the average price realised at auction was £10 19s. 10 $\frac{3}{4}$ d. The percentage died and destroyed was 4.6.

The statistics of the horses and mules actually in Egypt are not included in the above, and are as follows, up to the end of 1882 :—

Horses and ponies sent from England	5,184
Sold	22
Died	488
Destroyed	108
Missing	6
Transferred to England	2,395
	<hr/>
	3,019
Remaining	<hr/>
	2,165
	<hr/>
Mules sent to Egypt	2,969
Died	5
Destroyed	35
Transferred to England or sold	2,767
	<hr/>
	2,807
	<hr/>
Remaining	<hr/>
	162

The losses by death among the horses were from the following causes :—

	DIED.	DESTROYED.
Fevers, Pyæmia, Purpura Hæmorrhagica	9	1
Asthenia	30	13
Exhaustion from marching	154	2
Disease of lungs	30	1
Rupture of heart or blood-vessels	6	0
Lymphangitis	1	0
Hæmaturia	1	0

	DIED.	DESTROYED.
Disease of intestines	10	0
Disease of liver	1	0
Apoplexy	11	1
Sunstroke	2	0
Other diseases of brain or spinal cord	2	4
Disease of skin	0	2
Fractured limbs	0	10
Laminitis	4	10
Farcy	0	2
Glanders	0	2
Malarious Epizoötic Fever	144	8
Gunshot wounds	22	13
Sore backs	2	21
Other accidents	6	18
Killed in action	53	0
	<u>488</u>	<u>108</u>

Total number on sick list to 31st December, 2,567; of which 111 were for Asthenia, 177 exhaustion from marching, 170 for disease of lungs, 37 of intestines, 34 of brain or spinal cord, 42 of skin, 41 for Laminitis, 58 injuries to limbs, 477 Malarious Epizoötic Fever, 11 Strangles, 13 disease of eyes, 135 gunshot wounds, 1,178 other surgical diseases or accidents (including 517 sore backs), 19 disease of circulatory organs, 2 of urinary organs, 4 of liver or spleen, and the remainder of various fevers and surgical affections. 4 cases of Glanders or Farcy occurred. Total loss per cent. 11.496, or nearly 11½.

The losses among the mules were as follows :—

	DIED.	DESTROYED.
Asthenia	0	17*
Hyperæmia pulmonalis	1	0
Lymphangitis	0	1
Irregular teeth	0	1
Paraplegia	0	1
Fractured limbs	0	4
Sprained ligament	0	1
Strangles	0	1
Ophthalmia	0	1
Dislocated vertebræ	0	1
Lacerated wounds	0	7
Drowned when landing	4	0
	<u>5</u>	<u>35</u>
Total losses		
Admitted to treatment, viz., for :—		
Asthenia		22
Lung diseases		15
Wounds		74
Strangles		3
Ophthalmia		2
Simple fever		3
Other disorders or injuries		23
		<u>142</u>

* Too old and emaciated when bought to be of any use.

Cured	.	.	102	} = 1'35 per cent.
Died	.	.	5	
Destroyed	.	.	35	

The following tables show the comparative difference in the losses of horses in civil and in military service. The statistics of the latter are made up from annual returns ending 1881, and those of private horses from the report of one of the largest London omnibus companies published in 1882:—

Average price of each horse.	1000 horses cost.	Average length of service.	Of these 1000		Average price realised at auction.	Amount obtained for horses sold.	Balance of actual cost, omitting price obtained for carcase.
			Die	Are sold.			
Army. £43	£43,000	yrs. months 9 6	220	780	£10	£7,800	£35,200
Omnibus. £35	£35,000	yrs. months 5 0	765	235	£7	£1,645	£33,355

The actual cost of 1,000 omnibus horses is therefore £1,845 less than that of 1,000 army horses, but as they last little more than half as long, the cost is practically almost double.

The difference in favour of army horses is doubtless attributable to their having easier work, except during the drill season, to the superior stable management, to the shoeing being better, and to their being more carefully and promptly attended to when sick or lame.

OBSERVATIONS ON "STRINGHALT" IN THE HORSE, AND THE MORBID ALTERATIONS OCCURRING IN APONEU-ROSES IN CERTAIN REGIONS.

BY PROFESSOR DIECKERHOFF, BERLIN VETERINARY SCHOOL.

IN a monograph on Spavin,* published in 1875, Dieckerhoff made known what, in his opinion, was the determining causes of the defect in progression known as "Stringhalt" (*Huhnertritt*, or fowl's walk), which is characterised, in the horse, by a quick convulsive flexion of one or both of the hind limbs, these being jerked up inordinately and irregularly, and then forcibly brought in contact with the ground. Since that time a close and careful study of the part muscular aponeuroses play in locomotion, has led him to affirm that this morbid movement was alone due to the retraction or shrinking of the tibial aponeurosis (see *Chauveau's Anatomy of the Domesticated Animals*, by Fleming, p. 297). It is observed, in corroboration of this view, that in horses which have been affected with Stringhalt for a year or longer, the mass of muscle embraced by this aponeurosis is less developed and more dense than in the normal condition. It must be admitted that this retraction will hinder the regular flexion of the leg, and that to keep up movement, to flex the hock, in fact, the horse is compelled to energetically contract the accessory flexor muscles (semitendinosus, semimembranosus, and biceps femoralis). Consequently, the stringhalt action should be considered as a compulsory or artificial pace.

* "Die Pathologie und Therapie des Spat der Pferde." Berlin, 1875.

Considering that the aponeuroses of the other regions of the posterior limbs may also undergo alterations capable of modifying the regularity of the movements of these limbs, it may be understood that the symptoms of Stringhalt are not always absolutely identical. In the same way, the aponeuroses of all the other regions of the body may be contracted, and the study of these alterations appears to be all the more interesting, because it has never been undertaken by any one up to the present time. The most important are the following :—

1. Retraction of the *ante-brachial aponeurosis*. This alteration is rarely witnessed. It has been observed in a horse fifteen years of age, which daily performed a considerable amount of work. The right anterior leg, which was perfectly healthy, executed its movements normally, while the left limb made one or two regular steps, then four or five others in which it was jerked up convulsively and precipitately, as in Stringhalt.

2. Retraction of the *external scapular aponeurosis*. This is noticed in saddle and draught horses, and appears to be the cause of all those lamenesses which are difficult to diagnose and to cure, and which are generally ascribed to paralysis or rheumatism of the shoulder, shoulder sprain, etc.

3. Retraction of the *lumbo-iliac aponeurosis (fascia iliaca)*. The affections designated chronic paralysis and sprain of the loins, are nearly always occasioned by contraction of this aponeurosis. Seeing the part it should play in locomotion, animals suffering from this condition may continue to do service for years. The gait is unsteady, and this is more especially manifested when the horse is turned round at a walk or trot. It would not be very rational to attribute this infirmity to any other cause, as at the autopsy of an animal which has been so affected during life, there is nothing abnormal discovered in the spinal cord, nor any of the lesions usually observed in the motor nerves of paralysed muscles.

4. Retraction of the *gluteal aponeurosis*. This is frequently remarked in heavy draught horses employed in severe labour; and is manifested by stiffness of the hind limbs and the short steps the animal takes with them.

5. Retraction of the *superior and internal portion of the tibial aponeurosis*. This is found in light draught horses which are somewhat the worse for wear. The hind limbs are wide apart when standing and on leaving the stable, but their movements become regular after a few minutes' exercise.

6. Retraction of the *external portion of the tibial aponeurosis*. The indications of this are observed in horses which remain for a long time in the stable or elsewhere. When they are about to move to the right or left, they at first raise the corresponding hind limb very high, then lower it slowly to the ground. Flexion of the hock and movement of the phalanges being difficult, the animal swings the limb outwards, flexing the coxo-femoral articulation to such an extent that falling appears to be imminent. In fact, when the retraction of this part of the aponeurosis is very marked, horses often fall on the side opposite to that which has the raised leg.

Many veterinary surgeons consider these movements as a spasmodic phenomenon, and in Germany designate them by the absolutely false designation of *Streukrampf* (litter cramp), because they are most frequently remarked in horses which remain a long time in the stable standing on more or less soft litter. There may also be a tendency to Stringhalt, though usually there is only stiffness in the hind legs.

All the morbid alterations cited in paragraphs 1 to 6, may be considered incurable. Nevertheless, if on the appearance of the first symptoms the horses are allowed complete rest, recovery may take place, or at least considerable improvement. In cases in which the disease is not too inveterate, it may be judicious to give the animals food rich in nutritive principles. The

aponeuroses partially regain their elasticity, and the movements of the limbs become more free and easy.

It has been already stated that the symptoms of Stringhalt are not always identical, and that they may vary in their mode of manifestation. Among these symptomatic manifestations may be reckoned the following :—

1. Horses which, in walking, raise the hocks to a most unusual height—a movement which empirics and horse-dealers term *Krampfziehen*, the act of drawing the limb as in a case of cramp. Such horses are very soon fatigued, and on dissecting the part involved, we find a retraction of the tibial aponeurosis throughout its entire extent ; while in the horse affected with ordinary Stringhalt, and which is no more readily fatigued than a horse with perfectly healthy limbs, we ordinarily note retraction only at the inferior part of the thigh.

2. Horses which suddenly elevate a hind limb and keep it suspended in the air for some seconds before allowing it to descend to the ground again ; then with difficulty moving it from the ground to begin the some series of movements. This variety is seen at the walk or trot, and the symptoms may be more accentuated in one limb than the other.

3. Horses which advance by making the diseased limb at first perform an abduction movement outwards, then a jerking elevation movement.

4. Lastly, a peculiarity observed in May, 1882, by Dieckerhoff, in a pure-bred horse, which, after having been at the stud for a year, was castrated, and used for harness. This animal had stringhalt for about fifteen days, when, according to the information given to the professor, it was noted to show signs of commencing paralysis in the corresponding limb. When it moved at a walking pace or trot, or even moved in the stable, it carried at first the inferior part of the leg outwards, then raised it suddenly to a considerable height. It was operated upon in the manner to be described presently, and in August of the same year it was able to resume work, its paces being then very regular.

All these symptomatic varieties of Stringhalt appear to be only the result of a habit acquired in consequence of the considerable restraint in the movements of the hind limbs, occasioned by the retraction of the tibial aponeurosis, above and below the hock. The horse, on finding a difficulty in progressing regularly, relieves itself as much as possible by moving the hind limbs in various ways, repeating this variation indefinitely. It is also possible that a particular conformation of the hock or tibia, or unknown aponeurotic alterations, may have a certain part to play in Stringhalt. But investigations made in this direction have not yielded any result.

Treatment.—In order to cure Stringhalt, it is necessary, according to the above-mentioned theory, to diminish or relax the retraction of the tibial aponeurosis above and below the hock. The operation of Boccar (a Belgian veterinarian), which consists in subcutaneous section of the terminal tendon belonging to the lateral extensor of the phalanges, sometimes gives satisfactory results. But Dieckerhoff practises the subcutaneous section of the branch of the tibial aponeurosis which passes along the anterior extensor of the phalanges. By this procedure, the good effects of which may be verified on a dead animal, it is often possible to effect a complete cure, or at least a considerable attenuation of the defect. But both operations are usually of no avail in curing cases of Chronic Stringhalt. For this reason, Dieckerhoff has, for the last four years, practised the subcutaneous section of that portion of the tibial aponeurosis which runs along the extensor of the phalanges, as well as that of the terminal tendon of the lateral extensor muscle of the phalanges.

To perform the operation, the horse is laid on the side opposite to the diseased limb. The leg is constricted above the hock by means of a cord or

elastic ligature, in order to check the circulation and to render the tibial aponeurosis more accessible at the seat of operation. The operator incises the skin below the hock, immediately over the terminal tendon of the oblique flexor of the phalanges (Chauveau ; the flexor pedis accessorius of Percivall). Into the incision he introduces his tenotom, which is well rounded at the point, and placing it on the tibial aponeurosis he divides this membrane transversely, in pressing the instrument with the left hand. Then taking a sharp-pointed tenotom, he passes this beneath the tendon of the oblique flexor and cuts it through transversely.

When the horse is allowed to rise, it at first flexes and carries the pastern forward, but after taking a few steps the limb rests firmly on the ground. The wound is dressed with tow steeped in a disinfecting solution, and which is kept there by a bandage around the hock and the upper end of the metatarsus. This dressing should be moistened with the solution every day for six or eight days. Bathing the limb with tepid water is often of much benefit and hastens the cure. After the operation, the horse should remain in the stable during from three to four months. An improvement in walking is, at the end of this time, immediately perceived, and this becomes more and more evident, until a complete cure is obtained in the course of four to eight weeks. If the horse has Stringhalt in both hind legs, the second limb is operated upon in the third or fourth week after the first.

During the four years, Dieckerhoff has operated on nineteen horses, fifteen of which were completely cured, while the others were much relieved. If the Stringhalt has been present only for a few months, a cure may always be expected ; but when it has existed for a long time, the operation only affords a little more liberty of movement in the limbs.

In some works on veterinary surgery, in the treatment of Stringhalt it is recommended to divide the tensor of the tibial aponeurosis—the *fascia lata*. Hertwig was the first to attempt this mode of treatment, and he reports a case in which he obtained a complete cure. But after trying this operation, Dieckerhoff asks if Hertwig really had to do with a case of Idiopathic Stringhalt, and if the pathognomonic symptom of this defect, which consists in an exaggerated elevation of the limb, was not due to an acute but occult inflammation in the leg. It is probable that the operation was practised at the decline of the real disease, and that it had no part in the cure. In the history of Stringhalt, no other cases of cure obtained by this procedure are recorded, and theoretically it appears to be inadmissible. Two cases so operated upon had an unfavourable termination, one dying four weeks afterwards from purulent infection consequent upon incision of the leg. This method, which Dieckerhoff pronounces to be inefficacious and dangerous, he thinks should be renounced.

THE BACTERIA OF SWINE PLAGUE.

AT the meeting of the Physiological Society on January 19th, Dr. E. KLEIN, F.R.S., made the following communication on the "Bacteria of Swine Plague."

The author had described, in 1877-1878, that in this acute infectious disease the diseased organs contain a form of bacteria, in morphological respects identical with bacillus subtilis, *i.e.*, longer or shorter mobile rods and capable of forming spores ; further, that artificial cultures of these bacilli cause the disease in pigs after inoculation ; and lastly that mice and rabbits are susceptible to this disease after inoculation with material directly derived from the diseased organs of the pig or

with artificial cultures. Last year M. Pasteur maintained to have cultivated from the blood of the pig, ill with the disease, a microbe which is not a bacillus, but a dumbbell micrococcus. He states that he has produced with these cultures fatal illness in pigeons and rabbits, and has also caused the plague in swine. The author, by new experiments, shows that M. Pasteur is wrong in all points. First, he shows that pigeons are altogether insusceptible to the disease, since inoculations with material directly derived from the diseased organs of the pig, dead of Swine Plague, material well known to produce the disease in the pig, mouse, and rabbit, are altogether harmless to pigeons, and similarly cultivations of the true bacteria of Swine Plague do not affect pigeons in the least. According to M. Pasteur's statement, the pigeons inoculated with his cultures of dumbbell micrococcus died under symptoms, and with anatomical lesions, almost identical with those of that form of Septicæmia known as Fowl Cholera; and the conclusion is therefore forced upon us that M. Pasteur's cultures were contaminated with or, contained solely, the organism of this Septicæmia. Similarly his rabbits probably died from the same disease, since these animals are exceedingly susceptible to Septicæmia.

Examining the diseased tissues of pigs dead of Swine Plague after the modern methods of aniline staining, the author ascertained that all the diseased organs (lungs, intestines, inguinal and bronchial lymph-glands) contain the characteristic bacilli, mostly filling and plugging minute blood-vessels. So do the diseased organs of mice and rabbits (spleen, liver, lung) dead of the disease.

Artificial cultivations were made in broth and hydrocele fluid from diseased organs of the pig, mouse, and rabbit, and it was found that after an incubation of twenty-four hours at temperatures ranging between 30° and 42° C., the above rods were found crowding the nourishing fluids, all being rather short, about 0·002 to 0·003 mm. long, and all possessed of active locomotion, such as is known to be possessed by septic bacterium termo and bacillus subtilis. During the following days of incubation, while the rods multiply, many of them lose their mobility, grow longer, up to 0·005 mm. and more, and in some of the longer examples bright spores make their appearance, one spore at one or both ends or also in the centre.

From these cultivations new cultivations were made and carried on through successive generations, all cultures behaving in the same manner, and in all the rods only being present, showing exactly the same changes as in the parent culture.

The smallest droplet of any of these cultivations produces the disease in pigs, mice, and rabbits. The mice and rabbits die under exactly the same appearances, and with the same anatomical lesions, as when they are inoculated with material directly taken from the diseased organs of a pig dead of Swine Plague. These animals generally die on the fifth, sixth, or seventh day, and on a *post-mortem* examination show a characteristic swelling of the spleen, a characteristic disease of the liver (chiefly coagulation-necrosis of tracts of the liver tissue), and inflammation of the lungs.

Inoculations of sterilised suitable nourishing fluids made from the spleen, liver, and lung of such animals always succeed in producing a copious crop of the characteristic bacilli, so do those made with the lung and bronchial glands of the pig dead of Swine Plague; but from the blood of the pig the cultivations do not as a rule succeed, nor as a rule from the blood of mice; occasionally, however, those from the blood of rabbits dead of the disease do succeed.

ARTHRITIS DEFORMANS IN THE HORSE.

AT the meeting of the Pathological Section of the Academy of Medicine of Ireland, held on January 4th, Dr. ABRAHAM made a communication on this subject, a specimen of arthritic disease involving the manus of a horse. He said : Chronic Rheumatic Arthritis appears to be by no means uncommon in the horse. The specimen in question (which he exhibited) seemed to me, however, to be such an extreme example of the affection that I thought it would be a sufficiently interesting object to bring under the notice of the Pathological Section. The bones are those of the right manus of an underbred and aged mare. The carpo-metacarpal articulation is quite healthy ; but there are two or three small rough osseous outgrowths near the upper ends of the metacarpals—that is to say, there is a tendency to osteophytic outgrowths from the bones themselves, quite independently of the articular surfaces. The lower end of the cannon bone (middle metacarpal) is, on the other hand, all around the seat of osteophytic deposit. Several of the dendritic masses are loose, and the larger ones measure upwards of two inches in length and one inch in breadth and in thickness. The articular surface for the first phalanx, or greater pastern, is on the left side for more than half of its extent, rough, and quite denuded of cartilage. The greater part of the surface is, however, not much altered, although on the borders of the denuded part are situated three narrow bands of eburnation. From the way the articulation looks in the specimen, there could have been but little movement in the joint, and it is evident that the manus from this point must have been permanently fixed, without ankylosis at an angle so as to point backwards and somewhat inwards. The greater pastern is nearly everywhere enveloped in an enormous more or less continuous irregular bony mass, which above greatly enlarges and deepens the socket of the metacarpo-phalangeal joint in a manner typical of the so-called “rudimentary bones.” A considerable portion of the upper articular surface on the inner side is denuded and rough, and there are one or two porcelainous lines and points corresponding to those on the bone above. The irregular bony outgrowth has included, as it were, the posterior sesamoid bones, which have thereby become firmly ankylosed. The lower articular surface of this phalanx has for the most part disappeared, an irregularly cavernous space occupying its inner two-thirds. The small piece of surface which remains on the outer half, shows a large characteristically eburnated patch. Corresponding to the cavernous part of this surface, a similar irregular excavation is seen to occupy the adjacent portion of the “lesser pastern” (second phalanx) ; so that when the bones are in position these parts can be closely approached. It is probable that here the loss of substance or atrophy had been caused chiefly by pressure. At the same time, the surfaces have some appearance of erosion by pus. That part of the articular surface of the lesser pastern which ought to be opposite to the eburnated patch on the greater pastern is for the most part eroded, and is only polished along a line on the outer rim. The articulation of the lesser pastern with the “coffin bone” (ungual phalanx) is healthy, although the latter bone has thrown out some irregular growths outside the articular surface. The term “arthritis deformans” is in one sense eminently applicable to this case, for before the specimen was macerated and the bones separated, the general distortion was so great that it was hard to resist the idea of dislocation and fracture. From the awkward position of the bones, the flat of the hoof became useless for support, and not meeting with attrition, the horny matter continued to grow. The hoof became thus curiously curved laterally, and it now weighs when separate four and a quarter pounds. This is a good example of the overgrowth of an epidermic structure when relieved of its legitimate wear and tear, and it reminds one of the big toenails of bed

ridden paupers, which are so common in museums. For the sake of a more thorough examination the greater portion was longitudinally sectioned, and fragments from the centre of the bone, as well as pieces of the osteophytis, were ground down for microscopic observation. On the cut surface the original contour of the bone can with difficulty be made out, and to the naked eye there is but little difference distinguishable between the textures of the osteophytic bone and of the bone proper. The saw has escaped a cavity situated in the midst of the bone just below its centre. No communication with the outside has been traced. It is occupied in parts by a powdery mass, the remnant of an abscess. The thin sections taken from the centre of the bone are very similar in microscopic character to the sections taken from the outgrowth. In both cases the bone deposition is irregular, especially with regard to the lacunæ, which vary much in size and shape, have indistinct or few canaliculi, and are singularly absent in some places and closely massed in others. In the specimen, indeed, there seems to be on the whole more inflammatory bone disease than joint disease.

The CHAIRMAN asked, Was there any suppuration?

Dr. ABRAHAM: I did not find any. I did not examine the specimen until it was quite macerated.

Dr. BENNETT said that, although they seldom saw specimens of this sort, he believed the disease was common enough in horses. While there were differences from the disease as presented in human subjects, the essential features were the same in both. There were also in the specimens an exact repetition of the diseased conditions seen in the fossil specimens, *Cervus mejiaceros*, or Irish elk, which were preserved in the Museum of Trinity College, and also in the College of Surgeons, the disease being in all these cases true Rheumatic Arthritis. In the last number of the "Pathological Transactions," of London, reference was made to the occurrence of Rheumatic Arthritis in human skeletons lately dug up in London from a Roman tomb of the fifth century, and in those found at Pompeii, as the earliest known examples of the diseases; but a still earlier date might safely be assigned to the mejiaceros.

CHAIRMAN: Were both the horse's legs affected?

Dr. ABRAHAM: I think not. The animal while living could not walk on the diseased hoof, but dragged it under it.

Dr. DOYLE mentioned that he had a horse suffering, he believed, from this disease, and the animal was a good galloper and a capital jumper in the field, but when leaving the stable in the morning he used to be quite stiff in the parts of the legs connected with the hock joint. After he had moved about for awhile, however, the stiffness would disappear, and he would get quite well. In the Richmond Hospital, the late Surgeon Adams used to draw attention to the fact that patients suffering from Rheumatic Arthritis had a difficulty arising from stiffness, which disappeared after they had moved about for awhile. In the majority of the cases of Arthritis at that hospital, as he remembered, the disease was not confined to one joint, but the joints of both sides used to be affected.

Dr. ABRAHAM, in reply, said he forgot to mention, in the case he had brought before them, the navicular bone was quite free. There was a cavity in the centre of the greater pastern, which contained a powdery mass, like what would remain after an abscess, although the occurrence of abscesses was not common in Chronic Rheumatism. There was also an appearance as if the joint had been eroded with pus. The joint seemed to be more affected than the articulations, so that one would be inclined to suppose that the disease was one more of the bone on the periosteum than of the cartilages. The ordinarily received opinion was that this disease commenced in the synovial membrane and the cartilages, and the human

specimens in the Museum of the College showed that beyond a doubt. It was possible that there were other diseases nearly allied to the ordinary Chronic Rheumatism, but differing from it in some points, and it was also possible that the disease of the horse illustrated by the specimen was a variety of it. The bones of the mejaceros upstairs showed a small amount of affection.

THE SOURCES OF ANIMAL HEAT AND MUSCULAR POWER.

PROFESSOR BUNGE, of Dorpat, has lately published in the *Zeitschr. f. Physiol. Chemie* (Bd. 8, S. 48-59) the results of experiments carried out by him with a view of throwing light upon the question—What are the immediate sources of heat and of muscular activity within the organism?—recent views inclining to the belief that muscular power is principally due to the splitting up of food material previous to oxidation, and that body heat is mainly due to the oxidising process itself.

It occurred to him that if this view were the correct one, it should lead to the expectation that those animals that require absolutely no body heat of their own would have the least need for oxygen. Such animals are the entozoa of warm-blooded animals, which pass their lives in an unvarying and moderately high temperature, within the bodies of other animals. He selected the *ascaris mystax* of the cat, an entozoon that is distinguished by very active movements, as one suitable for experiment. He first ascertained that these ascarides could be kept alive and in an active condition in a solution of common salt (1 per cent.) and carbonate of soda (1 per cent.), maintained at a temperature of 38 C. (100·2 F.) for a period of eight to ten days. The next step was to extract the oxygen from the water as completely as possible. This was done, with the result that the entozoa continued to live and move actively in the solution thus freed from oxygen for from three to five days, the animals not dying till the fifth or sixth day. He does not contend that the ascarides can live without oxygen; the experiments rather prove the contrary, as in solution not deprived of it they lived generally eight to ten days, and sometimes as long as fifteen; but he does claim that the need of oxygen of these entozoa is much less than that of other animals.

The experiments thus throw some light on the sources of muscular power in animals, as in these animals experimented on they cannot exclusively reside in the process of oxidation, for the movements were just as lively and continued for days in a medium deprived as completely as possible of its oxygen. They must rather be sought in the splitting up process that takes place in the food.

ZOOGLÆIC TUBERCULOSIS.

MM. MALASSEZ and VIGNAL, in a paper presented to the Paris Academy of Sciences, remark that the researches of Koch, succeeding those of Klebs and Toussaint, who left the question undecided, have definitely established the parasitic nature of Tuberculosis. But, they contend, there are cases of Tuberculosis in which the ingenious technical methods of Koch do not reveal any trace of *Bacilli*. When inoculated into a series of guinea-pigs, they give rise to generalised Tuberculosis also destitute of these organisms. In the place of these, there are discovered in the centre of the nodules very fine granular masses with very definite contours, more or less lobed, and quite distinct from the surrounding elements, which are intact. These productions

in this form can be distinguished, in a caseating centre, as fine granules, very regular and uniform in dimensions, and which are not acted upon by potass, acetic acid, or ether. These are micrococci which form, by their union, masses known in natural history as *Zooglæa*.

These *Zooglæa* are found in the third or fourth generation, but finish by becoming indistinct, and seem to be diffused among the elements of the nodule and by the dispersion of the micrococci. At the sixth generation, the nodules show numerous *Bacilli*.

If the products arising from non-Bacillar Tuberculosis are cultivated, and the resulting matter is inoculated in series, the same results are obtained; but the *Zooglæa* do not exist so long; the appearance of the *Bacilli*, always more sudden, may take place simultaneously or after the third generation. Thus, there are nodules destitute of *Bacilli* which, by series of inoculations, produce *Zooglæic* nodules.

The *Zooglæa* for some generations with all their definiteness, become diffused towards the end of the series, and disappear in the last generation to give place to the *Bacilli*.

It is legitimate to believe that this apparent substitution is only a transformation, and that the *Zooglæa* are a particular form of the dimorphous parasite of Tuberculosis. Thus is explained in a very simple manner the results of the cultivations made by Toussaint, and a solution is afforded of the apparent contradiction of these results by those of Koch.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

MEETING OF COUNCIL, HELD JANUARY 29TH, 1884.

The President, Dr. FLEMING, in the chair.

Members present.—Sir F. Fitzwygram, Bart.; Professors Pritchard and Robertson; Messrs. F. Blakeway, B. Cartledge, W. J. Cartwright, E. C. Dray, T. Greaves, M. J. Harpley, T. H. Simcocks, H. L. Simpson, P. Taylor, W. Whittle, William Woods, F. W. Wragg; and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the previous meeting were taken as read and confirmed.

The SECRETARY read letters from Professors Simonds and Walley, Messrs. Perrins, Walters, Reynolds, Duguid, and Santy, regretting their inability to attend the meeting.

Resignation of a Member of Council.

The SECRETARY read a letter from Mr. J. Collins, late Principal Veterinary Surgeon to the Army, resigning his seat at the Council, and also his position as trustee of the College.

The resignation having been received,

Mr. DRAY proposed, and Mr. TAYLOR seconded, that the election of a member in the place of Mr. Collins should be deferred until the annual meeting.

The resolution was agreed to.

The PRESIDENT moved that a letter of regret be sent to Mr. Collins for the necessity he was under of retiring from his office, and expressing their recognition of the services he had rendered.

Mr. P. TAYLOR seconded the resolution, which was agreed to.

On the proposition of Mr. DRAY, it was agreed that Mr. Cartledge should be elected as trustee in the room of Mr. Collins.

A letter was read from Mrs. Noddall stating that, in accordance with the request of the late Mrs. E. N. Gabriel, she had forwarded for the acceptance of the Council a portrait of her husband, Mr. Gabriel, who was for many years Secretary to the College.

Mr. CARTLEDGE proposed that the thanks of the Council be given to Mrs. Noddall for the presentation.

Mr. DRAY seconded the motion, which was agreed to.

The SECRETARY read a list of presentations to the library, and the thanks of the Council were awarded to the donors.

Applications for diplomas were read from Mr. John Tait and Mr. Thomas Acton, holders of the Highland and Agricultural Society's certificates.

The diplomas were granted.

A letter was read from Dr. Griffith, a medical man, wishing to know whether he could, by one year's study, satisfy the examinations. The Secretary was instructed to write in reply that Bye-law 47 must be adhered to.

Letters were read from Mr. Neale with reference to a Mr. Pettifer, and from Mr. King with reference to J. Dalton, and were referred to the Registration Committee to report at the next meeting of the Council.

Finance Committee.

The report of the Finance Committee was read.

With reference to the statement that the Committee recommended that a claim of £38 19s. 16d. made by the Freemasons' Tavern Company should be paid,

Mr. DRAY said that one of the Dinner Committee went to the Freemasons' Tavern, and being asked the probable attendance he said a hundred. There were actually sixty-nine at the dinner. A bill was sent in for the hundred, but ultimately they consented to take half the fee for the thirty-one absentees. It seemed a most unusual thing that they should have to pay this, but the Finance Committee, after consideration, had thought proper to do so. He mentioned the matter so that the mistake might be avoided in future. Another matter brought before the Finance Committee was a letter from an architect making a claim of fifty guineas for business transacted in connection with their search for a new building. The charge seemed to be a very excessive one, and the plans which the architect had prepared were pronounced to be impracticable.

The letter was read, and the SECRETARY stated that the architect had agreed to accept one half the sum.

The Council sanctioned the payment of the hotel bill, and, on the motion of Mr. TAYLOR, resolved that £20 should be offered to the architect in payment of his claim.

Cheques were ordered to be signed in payment of the outstanding liabilities.

House Committee.

The report of the house committee was read, together with letters from the architect and house agent with reference to the premises as to which negotiations had been in progress in Brunswick Square.

Professor ROBERTSON drew attention to the income of the Royal College, and said the expenses attaching to this new building would be more than the College could well afford. The question was whether they could promise themselves a continuance or an increase of the present annual income, and the Committee thought it should be left to the Council to decide.

Mr. SIMPSON said he did not think the time had arrived when they could invest either in freeholds or in long leaseholds. He thought that if they did

not spend all their money just at present they might be able to take up some temporary place which would serve them for a few years, and it would certainly be an incentive to the profession to pour in their subscriptions towards the College if they knew the actual condition of affairs. He had in his pocket an order to view certain premises which it was said might be available for a time until they could get the means of going into a building of their own. He did not like the proposed site in Brunswick Square, and thought it would be better to take temporary offices and then wait their time. Another question was whether it might not be desirable to grant the Secretary a sum in order that he might provide himself with a house apart from the College building. These were all important matters for consideration, but he thought that the expenditure of so large a sum as was required on the buildings at Brunswick Square would not be a good investment.

The PRESIDENT said they certainly could not remain in the present premises ; in fact, he did not think they could hold another meeting there.

The SECRETARY said the roof had fallen in and the Council really ought to take some steps.

Mr. CARTLEDGE moved that the house committee be authorised to take action at once to get a house without further communication with the Council ; and also that the secretary be instructed to write and say that the Council declined to entertain the proposition before them with regard to the Brunswick Square Buildings.

Mr. WHITTLE seconded the motion, which was agreed to.

The Field Bequest.

The PRESIDENT said there was a large balance still to be made up to complete the £1000 necessary, in order that they might take the benefit of the bequest.

Mr. HARPLEY proposed that a cheque should be drawn from the General Fund, in order to make up the £1000.

Mr. TAYLOR seconded the motion, which was agreed to.

The Secretary was directed to write to the landlord of their present premises, stating that the roof of the building was damaged, and asking that it might be repaired.

Registration Committee.

The report of this Committee was read. With reference to the application of Messrs. Kingsett and Bretherton, who applied for registration as foreign and colonial practitioners,

The PRESIDENT said the Committee was not in a position to deal with the question, inasmuch as the Council had not laid down any rule with regard to the schools to be acknowledged. He was strongly of opinion that no schools should be recognised whose educational standard was below that of their own schools, nor should any diploma be recognised, the value of which was less than their own. He thought the cases should stand over until the Council had discussed the matter.

Agreed to.

The Parliamentary Committee.

The report of this committee was read. With regard to the Scotch memorial, with reference to the election of members of Council, presented at the previous meeting of the Council, the committee reported that the charter did not empower them to make any alterations in the mode of election, and, therefore, the proposal made by the memorialists could not be acceded to.

On the motion of Mr. TAYLOR, the Secretary was instructed to write accordingly.

The report of the Court of Examiners (London) was read.

On the motion of Mr. WHITTLE, seconded by Mr. WOODS, the next meeting of Council was fixed for the 9th of April.

The Obituary List was read.

Mr. DRAY moved that a letter of condolence, sympathy, and unfeigned regret should be sent to Mrs. Batt and family. Mr. Batt was an affectionate husband and an excellent father. The Council had lost a loyal and estimable member, while the profession had lost an excellent practitioner, an unobtrusive and a kind gentleman.

Professor PRITCHARD seconded the motion, which was agreed to.

Messrs. Woodger and Broad were appointed auditors.

The General Education Examinations.

The PRESIDENT said he had received a letter, which, although partly of a private nature, he thought should be read to the Council. The original letter was sent by Professor McCall to Professor Robertson, but a copy of it had been sent to him as President of the Council. It was a matter which deeply concerned the whole profession, and he would, therefore, ask the Secretary to read the letter.

The letter was as follows :—

“25th January, 1884.

“My dear Robertson,—I have much pleasure in acknowledging the receipt of your favour regarding the matriculation.

It is my intention to continue the examination of my pupils as at present. The standard of examination will not be a lower one than that set by the Royal College of Veterinary Surgeons.

I was, as you are aware, the first to institute a preliminary examination, and I do not feel inclined to give it up simply because the Council of the Royal College of Veterinary Surgeons have thought fit to interfere in the matter.

How far their interference may extend it seems at the present time beyond conception ; but unless there is redress for present grievances—all known to you as well as myself—I for one shall move for a Scotch charter.

I have all my life fought on the side of the Royal College of Veterinary Surgeons, and would wish to continue doing so ; but the treatment to which the Colleges and their pupils have been subjected of late would turn the heart of the stoutest champion in its favour dead against it.

If the Scotch Colleges are to remain affiliated to the Royal College of Veterinary Surgeons there must be two Boards of Examiners—a Scotch and an English—and they must alternately or otherwise conduct the examinations in Scotland and England.

Then the Council must be so arranged as to be constituted of an equal number of gentlemen who have graduated respectively in England and Scotland.

Further, the Principals of each College must be *ex officio* members of Council.

I understood when the Highland and Agricultural Society of Scotland abolished its examination and the granting of certificates, that the Colleges as hitherto would have been consulted in every step taken by the Council, and that a fair representation of all institutions and interests would be the order of the day ; but it has been the reverse, and the Council have done little else than pass one resolution after another, all tending to coercion, disorder, and disunion.

I am not going to say who have been the principal ringleaders in the crusade against the Colleges and their pupils, but I am going to send a copy of this letter to the President of the Council, so that he may have an oppor-

tunity of investigating the subject, and rearranging matters before it is too late.

I do not pretend to be possessed of the gift of foresight, but if the Council of the Royal College of Veterinary Surgeons wish to retain in their hands the monopoly of granting degrees to veterinary students in Great Britain and Ireland, they must act with less precipitancy than they have of late done ; and they must consult and be guided to a large extent by the Principals of the Colleges.

They must also remember that the Highland and Agricultural Society of Scotland still lives, and will show fight along with the Universities and Members of Parliament in maintaining the rights of the Scotch veterinary Colleges.

The times we live in are eminently calculated to foster and perfect, I repeat, attempts at breaking down monopolies, and if the Council of the Royal College of Veterinary Surgeons wish to make shipwreck of their institution, and to see a Scottish charter flourishing on its ruins, they have but to pursue the policy they have lately inaugurated.

It is not for me to advise you how to act as regards the matriculatory examination of your pupils, but you must know something which I do not if you can with confidence leave the examination of your pupils in the hands of the Royal College of Veterinary Surgeons, and abandon the examinations which have hitherto been productive of so much good when undertaken by yourself.—I am, my dear Robertson, yours very truly,

(Signed) JAMES MCCALL."

The PRESIDENT said he had telegraphed to Professor McCall, asking whether he wished the letter to be laid before the Council, but had received no reply. He did not know how the Council would act in the matter. The Professor wished that the grievances of the schools might be investigated. He (the President) did not know that they had any grievances. He could only say this, that the rejections of students had been very heavy of late, and he thought that was the chief grievance. He fancied the schools would be better pleased if all the students were passed ; but he must confess, judging from what he had seen, that the examiners had done their duty faithfully and well, both to the schools, to the Royal College, and to the public. If anything more than another was required at the present day, it was an increase in the general and professional education of the students. It should be as much the object of the Principals of the schools to assist the Royal College in raising the profession, as it was the interest of the entire body of the profession that it should be raised. For his own part, he could not see that any hardship was inflicted upon the schools by imposing a general examination test ; in fact, he thought it would be the fairest course that the Royal College could adopt. The Royal College was anxious to work with the schools, but it must be remembered that the Royal College was responsible, and not the schools, for the status of the practitioners.

Mr. WHITTLE said, if Professor McCall had really a grievance with the Council, he would have written to the President and not to Professor Robertson. He did not think an answer was required from the Council. The grievance was against Professor Robertson.

Professor ROBERTSON said he had nothing to do in the matter. The letter was written in reply to a question as to what Professor McCall was going to do with respect to the matriculation examinations. It was quite clear that he had thrown down the gauntlet in the face of the Royal College and the Council. He was not inclined to submit his students to the test of an examination, but said he would conduct the examination himself, and would make it equal to the examination of the Royal College. The question put to him was whether students ought to be taken without any examina-

tion at all by the schools, thus throwing the onus of the examination on the Royal College. He (Professor Robertson) thought they had no business at the schools to examine men at all; they should take any man who came to them, letting him know that he would have to provide himself with a certain qualification. According to Professor McCall's letter it was quite evident that he intended to examine his students as heretofore, and it was to be feared that there was a little bit of dissatisfaction in the schools and the profession with respect to the government of the Royal College. The Royal College should take the schools along with it, if possible. The reason of its existence as a Royal College was that the schools and the profession existed previously, and the be-all of their existence as a corporate body was the welfare of the profession.

Mr. TAYLOR said there was no doubt that the severe matriculation examination instituted by the Council was giving great offence. His opinion was that they ought to ascertain the calibre of the students before they were admitted to the College, because, if after spending three years there a man was rejected on a matriculation examination, a great deal of his parents' money would be wasted.

Mr. SIMCOCKS said, looking at the insinuation contained in the last paragraph of the letter, it was quite unworthy of consideration, and he should propose that the letter be marked "Read." It stated, "It is not for me to advise you how to act as regards the matriculation examination of your pupils, but you must know something which I do not if you can with confidence leave the examination of your pupils in the hands of the Royal College of Veterinary Surgeons." That was a most offensive insinuation, and if they attempted to reply to Professor McCall in the same manner, they must suggest that the matriculation examination would probably interfere with the financial arrangements of the schools. Whenever any improvement of the profession had been attempted, the threat of a Scotch charter had always been thrown at them, and he thought it was time to accept the challenge. Professor McCall seemed to forget that an Act of Parliament would be necessary before he got a charter for Scotland, and he thought the Royal College was strong enough to fight the Scotch professors if they wished to show fight.

Mr. CARTLEDGE said he did not think the letter was properly before the Council. It was a private communication, and they could not deal with it.

The PRESIDENT said it was evidently a public letter, because it was addressed to him as their President.

Mr. GREAVES said the Matriculation Examination was instituted with the object of improving the status of the profession, and it would be very difficult for the Professor to prove, even if he tried, that the object of the Council was to weaken or lessen the usefulness of the student. He thought he was taking action rather arbitrarily, and in a manner that hardly showed his strong desire to benefit the profession.

The PRESIDENT thought if the letter was taken as read it would show that he had done his duty in the matter. There was a question which had been asked by Professor Walley which would perhaps bring matters to a crisis. He asked when the preliminary examinations were to be held, and suggested as the most convenient dates the third week in January, the first week in May, and the fourth week in October. He (the President) would suggest that the Secretary should write to the principals of the other schools and ask what dates would be most suitable for them, and then if Professor McCall refused to mention any date or to have his students examined by the College of Preceptors or any other body that might be named, the Council must stand firm, and say that when the student came up for his first professional

examination he should undergo an examination in the subjects laid down, by a competent examiner. If they stood firm he had no doubt they would be supported not only by the entire body of the profession, but also by the public at large. Professor Walley, who had been very loyal to the Royal College in this matter, also asked if the minor certificate of the Irish Pharmaceutical Society would be accepted in lieu of the certificate of the British Pharmaceutical Society. He (the President) should ask for proof of the value of that certificate.

Mr. SIMCOCKS said he believed it included no educational test.

Sir FREDERICK FITZWYGRAM said that the grievances mentioned by Professor McCall were very unsubstantial, but it would perhaps be better if a letter was written to him to ask him to state them, for by that means they would very likely obviate a very large proportion of them. It was never wise to have their teaching schools in opposition to the examining bodies, and in all probability a little inquiry would satisfy him on many points.

Mr. HARPLEY thought that if the inquiry was made it should be done privately.

The PRESIDENT said as the letter had been addressed to him he would write privately to Professor McCall, asking him to state his grievances.

Mr. CARTLEDGE suggested that the discussion on this letter should not appear in the minutes.

Professor PRITCHARD proposed that the discussion should be entered upon the minutes, but should not be published through the Journal.

Mr. TAYLOR seconded that motion.

The matter was eventually left in the hands of the President.

Notice of Motion.

Mr. SIMPSON gave notice of the following motion : "That the Council of the Royal College of Veterinary Surgeons hereby affirm that the operation of docking horses is a necessary one, but that it requires surgical skill for its performance. It should therefore only be performed by qualified veterinary surgeons."

Professor ROBERTSON was afraid that the motion was beyond the power of the Council altogether. It was a question of professional ethics with which they had nothing to do.

Professor PRITCHARD said he would oppose the motion.

The PRESIDENT pointed out that it was not a subject which could be discussed by the Council, and the motion was entirely irregular.

Sir FREDERICK FITZWYGRAM said his objection was to the statement that it was a necessary operation.

Mr. SIMCOCKS said he should move as an amendment the previous question.

The Council then adjourned.

MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

AN ordinary meeting of the members of this Association was held on Friday afternoon, January 25th, at Mrs. Spafford's, Plough Hotel, Northampton. Mr. W. Carless, of Stafford, President of the Association, occupied the chair; and there were also present, Messrs. T. Greaves, Manchester; F. Blakeway, Stourbridge; T. J. Merrick, Northampton; E. Rivett, Daven-try; G. Smith, Tunstall; R. Olver, Tamworth; C. J. Hill, Leamington; E. Beddard, Wolverhampton; W. C. Ison, Atherstone; A. Over, Rugby; T. Verney, Stratford-on-Avon; H. M. Stanley, Birmingham; A. Hodgkins, Hanley; L. C. Tipper, Balsall Heath, Hon. Sec.; J. A. Cox, York; R. C. Trigger, Newcastle-under-Lyme; J. S. Barber, Rugby; Captain B. Russell,

Grantham ; F. W. Wragg, Whitechapel, London ; J. H. Reynolds, Daventry ; R. H. Cartwright, Wolverhampton ; B. Trees, Uppingham ; H. Blunt, Lutterworth ; and J. Wiggins, Market Harborough. Among the visitors were Mr. T. H. Merrick, Mr. J. P. Berry, and Mr. T. J. Marriott, Northampton.

After reading the minutes of the previous meeting, which was held at Leamington, the Hon. Secretary read letters of apology from Messrs. A. B. Proctor, Solihull, Birmingham ; G. Carless, Worcester ; Professor Pritchard, London ; E. Stanley, Warwick ; F. W. Barling, Ross ; G. Meek, Walsall ; R. H. Perrins, Worcester ; and Professor Walley, Edinburgh.

The report of the Treasurer (Mr. Blakeway) showed that the Association began the year 1883 with a balance in hand of £128 os. 8d. The subscriptions throughout the year amounted to £30 10s., which, with interest, etc., brought the receipts of the Association at the end of the year up to £161 13s. 5d. The expenditure included a grant of £52 10s. to the College building fund, and the balance at the bank was £93 11s. 5d. Mr. Blakeway added that he was pleased to be able to state that the whole year's subscriptions for 1883 had been paid up.

Upon the motion of Mr. COX, seconded by Mr. WRAGG, the Treasurer's report was adopted.

The HON. SECRETARY stated that with reference to the election of Mr. Blakeway, sen., as a life president of this Association on the National Veterinary Benevolent and Defence Society, he had written to Mr. Morgan, stating the fact of his election, and asking him for an official acknowledgment of the resolution. Mr. Morgan, however, merely wrote acknowledging the receipt of the letter.

Mr. T. GREAVES said at a meeting of the officers of the Society, Mr. Morgan was urged to reply more fully to the letter sent by the Hon. Secretary. The only remark made by Mr. Morgan was that he had replied. He (Mr. Greaves) had no doubt that Mr. Morgan meant it to be freely understood that Mr. Blakeway's nomination was accepted, but that it would have to be confirmed by a general meeting, and the official intimation of the fact would then be sent.

The HON. SECRETARY further intimated that he had written to the Royal College of Veterinary Surgeons stating that the Association had voted the sum of fifty guineas to the College building fund, to assist in raising the amount necessary to obtain the bequest of the late Mr. Field, and that in the event of the amount not being raised within the specified period the Association would give the matter further consideration. He had received a letter in reply stating that the Council desired to express their warmest thanks to the Association for the very handsome donation of fifty guineas towards the building fund, and trusting that it would be the means of inducing other kindred associations to follow their example. The terms of Mr. Field's bequest were that £1,000 should be forthcoming within twelve calendar months of his decease, and he died on the 27th February, 1883.

The CHAIRMAN said he did not think they could do anything more until after the Council of the College had met. He should be willing, however, to hear any remarks that might be made on the subject.

Mr. WRAGG having remarked that he did not think the Association could do anything more as the time was so short, Captain RUSSELL proposed that a paper should be passed round the room to see what personal subscriptions could be raised, as he said it would be a pity to lose so handsome a bequest. The paper was then passed round, and about £22 was promised.

Captain RUSSELL further asked what had become of all the money that had been received from the registered practitioners? Did not that go towards the College fund? There was a sum, he thought, of over £600. No reply was given.

The CHAIRMAN then brought forward the following motion of which he had duly given notice :—"Taking into consideration the affluent position of the Society, and the onerous duties of the secretary, it is desirable that in order that the duties may be properly discharged he should receive some remuneration." The President spoke in support of the motion, and said he thought that some remuneration should be given to the secretary. They had at present a goodly sum of money that must either be given away or remain in the bank. He would, however, state that he had merely brought the matter forward to invite discussion. It was his opinion that the person who undertook the office of secretary should receive something for his loss of time and trouble.

Mr. OLVER did not believe in a paid secretary, and hoped they would keep to the words Hon. Secretary. Some fourteen or fifteen years since the Association was nearly bankrupt, both as regarded members and funds, and circulars were sent out asking whether the Association was to be continued or not. He himself followed Mr. Stanley, of Birmingham, as hon. secretary, and officiated as such for three years. Since that time several gentlemen had acted as hon. secretaries, and the Association had flourished in such a manner that they had now both funds in hand, and had also been able to send a donation to the building fund of the Royal College. He believed there were young members of the Association who were still able and willing to carry out the duties of the office of secretary. He did not mean to say that the secretary should not be paid his out-of-pocket expenses.

The CHAIRMAN remarked that he did not wish to introduce the old system of having a paid secretary, but only that the gentleman who gave his time and attention to the duties of the office should be compensated for his real out-of-pocket expenses.

Mr. GREAVES called the attention of the meeting to the non-success of the Association when they had a paid secretary. He also remarked that other associations had not paid secretaries, and he, with the previous speakers, thought several gentlemen could be found to take the office without being paid to carry out the duties.

Mr. BLAKEWAY also spoke in opposition to the suggestion that they should have a paid secretary. Their subscriptions amounted to £31 per year, and their working expenses absorbed nearly half that amount. He was strongly opposed to their having a paid secretary.

Captain RUSSELL said he thought the meeting had misunderstood the intention of the President, as his idea seemed to him (Captain Russell) to be only that the secretary should be recouped any expenses he might incur in carrying out the duties of his office. He did not think any member of their Society would accept actual salary for carrying out the duties of secretary.

Mr. TRIGGER hoped the time was far distant when they would erase the word honorary from before that of secretary. No doubt the duties were of a somewhat onerous character, and the secretary should certainly be paid his out-of-pocket expenses. He would move that the position of the secretary remain purely of an honorary character.

Mr. SMITH seconded the motion, which was carried.

Upon the motion of Mr. STANLEY, seconded by Mr. L. C. TIPPER, it was agreed that Mr. T. H. Merrick, who had returned from abroad, should be allowed to resume his membership, and only pay his subscription in the usual manner.

The election of a President was next proceeded with, and Mr. TRIGGER said before proposing a successor to the office, at that time held by Mr. Carless, he wished to congratulate that gentleman upon the diligent manner in which he had carried out the duties of President during the past year. He then proposed that Mr. H. M. Stanley, of Birmingham, should be elected Presi-

dent for the ensuing year, and said he felt sure that Mr. Stanley would do equal honour to the office. He (Mr. Stanley) had peculiar claims for recognition upon the Association. His late father was one of the original members of the Association, and he himself had been connected with it for some years. Mr. Trigger said he ventured to predict that Mr. Stanley would endeavour to add to the dignity of the office, and would carry out the important duties of the office in a most satisfactory manner. (Applause.)

Mr. HILLS seconded the motion, and it was carried by acclamation.

Mr. STANLEY thanked the members for having elected him to the important position of President of the Association. He remarked that he would do all he possibly could, not only to raise the standard of the profession, but also of the Association. (Applause.)

Mr. Hills, of Leamington, was elected a Vice-President upon the motion of Mr. GREAVES, seconded by Mr. OLVER, as also was Mr. T. J. Merrick, on the motion of Captain RUSSELL, seconded by Mr. WIGGINS. The retiring President became the third Vice-President in the usual order of things.

The next officer to be elected was that of the Treasurer, and the CHAIRMAN said he hoped the meeting would retain the services of their tried and valued friend Mr. Blakeway, if he could be induced to continue in office. He moved that Mr. Blakeway be elected Treasurer and thanked for his past services.

Captain RUSSELL seconded the motion, and it was carried unanimously.

Mr. E. Beddard, of Wolverhampton, was chosen Hon. Secretary on the motion of Mr. STANLEY, seconded by Mr. ISON.

The next duty was that of electing a representative on the Council, and Mr. CARLESS incidentally referred to the mistake that had occurred with reference to the nomination of Mr. Olver the previous year. He said he did not know whose fault it was, but he thought Mr. Olver had overlooked any little shortcomings there might have been in the carrying out the duties connected with his candidature. He (the Chairman) expressed the hope that some member would nominate Mr. Olver on that occasion.

Mr. BLAKEWAY said they were considering a most important matter. No member regretted more than he did the fact that Mr. Olver, who was so well deserving of the honour, was not elected a member of the Council last year. However, on looking over the list of retiring representatives for this year, he found it contained the names of some excellent gentlemen. Among them were Mr. G. Fleming, Professor Pritchard, Professor Williams, Mr. T. Greaves, and Professor Brown. Mr. H. Batt, who would also have retired by rotation, was, he was sorry to say, dead. Looking at these names, Mr. Blakeway said he thought it best to postpone the proposal to run any one of the members of that Association for another year, and that they should use their utmost endeavours to re-elect those gentlemen. There were no five gentlemen who were more worthy of their support. They were frequent attendants at the Council meetings, and were earnest in their desire for the general welfare of the profession. (Applause.) The other vacancy would, no doubt, be filled up in London.

Mr. ISON expressed himself as being of the same opinion. They might nominate one of their own members when gentlemen of less importance than those previously named came to retire.

Mr. BLAKEWAY said if the meeting would allow him he would propose that, taking into consideration the valuable services rendered by the five retiring members, viz., Professors Williams, Pritchard, and Brown, and Messrs. Fleming and Greaves, and that four of the number are honorary associates of this Association, it is not desirable to nominate further candidates for election on the Council this year, but that the whole support of the

Association should be given to the retiring members, and that the various associations be written to asking for their co-operation.

MR. HILLS seconded Mr. Blakeway's proposition, and it was carried.

PARTURIENT APOPLEXY IN CATTLE, COMMONLY KNOWN AS "MILK FEVER."

Mr. J. H. COX, of the Army Veterinary Department, 5th Dragoon Guards, York, next read a valuable paper on "Parturient Apoplexy," contributions to which had appeared in the November, December, and January numbers of the VETERINARY JOURNAL, and the concluding portion of which would be given in the February number. The following is a summary of the chief points of the paper. Mr. Cox said he was led to introduce the subject on account of the many misgivings anent its pathology, treatment, etc., experienced by him during the last five or six years he was in private practice, and having met with somewhat unusual success, caused him to exercise his mind, as with the *rationale* of the measures he was then adopting, and to define, if possible, the true pathological conditions existent in this malady. The pathology, Mr. Cox said, appeared to be somewhat veiled in obscurity, and in consequence many eminent veterinarians had devoted a large amount of time to unravelling its mystifications. Taking the consensus of opinion, they might correctly assume that they had to deal with a species of Apoplexy. The question arose as to how and by what means that morbid condition was generated. *Acute Anæmia*, as advanced by Dr. Fleming, found many advocates. The theory of *Thrombosis* or blood-clotting, seemed to Mr. Cox to be more in accordance with what they found portrayed in the symptoms, etc., and as such he felt fully persuaded that that morbid condition was alone the *prima causa* of the existent phenomena in Parturient Apoplexy. Several agencies were at work to produce Thrombosis. It might occur after hæmorrhage from softening and breaking up of the clots which formed a temporary or permanent arrestation to the flow of blood from the divided ends of vessels, and which clots were afterwards taken up by the circulation. That latter condition was, in his opinion, the one which gave rise to Parturient Apoplexy. Many writers claimed that Parturient Apoplexy was engendered by the blood, which formerly supplied the wants of the foetus, being thrown back on the system of the mother, but did not explain satisfactorily the changes which the circulatory medium undergoes. He did not, however, believe that the bare fact of the blood being diverted in its course was sufficient to account for the changes observed in the disease. Mr. Cox next dwelt on the question why Parturient Apoplexy in the bovine tribe should be so well marked a feature, whilst in other orders of animals an almost perfect immunity was recognised, and said he thought the anatomical characters of the uterus as compared with some animals was sufficient to account for the predisposition to the disease. The almost absolute freedom from the disease by some animals was probably due to a combination of felicitous circumstances. It was generally conceded that in all cases of parturition where an undue amount of hæmorrhage was present the disease rarely made its appearance. It was in instances where labour had been fulfilled without apparently much loss of blood, and when, although they might not recognise it at the time, the uterus but very slowly assumed its preconceptive state that the disease made its appearance. They also had much additional evidence in support of the theory of Thrombosis being correct. The causes of the disease, Mr. Cox wrote, were divided into predisposing and exciting. Anything whereby the circulation generally was interfered with or overburdened would predispose an animal to attack. The habit of ascertaining whether or not an animal was in calf, and commonly known as "punching," ought to be severely deprecated in the way it is practised by inexperienced men.

Hereditary taint was a factor which had not been sufficiently recognised as an agent in production of the disease. They were cognizant that in other diseases where hereditary taint played an important part its effects were minimised by the judicious application of rational principles, or enhanced in proportion as they disregard its fixed and immutable laws. He did not propound the theory as an absolute, but he was convinced that it had an important bearing in relation to the subject. Class doubtless exerted itself in bringing about the morbid condition. It was on their heavy milking strains where the risk was run, and it was that mysterious connection which gained for the disease the title of "Milk Fever." Prior attacks induced a proclivity to its return, hence when an animal had once suffered it was deemed advisable either to sell it and allow others to have the unwelcome experience of combating the disease, or to fatten it off for the butcher. Faults in general management accounted for some victims—it might be many. Errors in dietetics, especially just prior to calving, perhaps furnished a greater liability to Parturient Apoplexy than any other indiscretion. There were some who as the time of calving approached substituted a more nutritious diet for the plain fare generally administered. That mode of procedure induced a species of Plethora, which some practitioners argued was alone sufficient to account for the disease. Milking the cow prior to calving had its advocates. It was, however, opposed by some, but personally Mr. Cox said he saw no particular harm in it. On the contrary, he thought a dual benefit accrued from the practice. In the first place it produced a sense of relief, and in the second it encouraged the circulation of blood, which was a great point. Alluding to the symptoms, Mr. Cox said signs of approaching mischief generally made their appearance from the time the calf was born up to a subsequent period of twenty-four hours. As a rule, however, the disease showed itself within the first twelve. If particular attention was paid to the animal it would be observed that the first sign to register the commencement of hostilities was a *rigour* distinct, but not prolonged. Having failed to check the onslaughts of the enemy, the symptoms became enhanced in severity, and ultimately complete Paralysis was established, and then began the struggle for supremacy between life and death. It was at this stage that the "slowing" of the circulation took place, and on being able to overcome that depended their success. The signs of approaching recovery were centred at several points. The milk, although small in quantity, began to make its appearance. The eyes lost their death-like characteristics. The pulse regained some of its tone. A sense of relief was experienced in the respiration. The power to deglutate returned. The patient by degrees supported its own head, and in a marvellously short space of time all danger seemed to have passed away. There was then, however, the danger of Pulmonary Apoplexy unless great care was exercised, which terminated either in death from that condition alone or its sequel Pneumonia, or in resolution. Another legacy of Parturient Apoplexy was continued Paralysis or Paraplegia. The interim between the two points, apparent death and robust health, occupied often but a brief period. As to treatment, Mr. Cox said no disease had been the subject of more empiricism than Parturient Apoplexy. He would not wade through the numerous formulæ which were supposed to afford benefit, but would confine himself to a description of those which might, at least, be said to be rational, and which in his hands had proved fairly successful. Venesection or blood-letting he said had a very beneficial effect when the professional man was called in in time. Purgatives of all kinds found their votaries, but to give purgatives during the comatose stage of the disease betokened a species of ignorance not creditable even to the merest tyro. There was a stage, however, when cathartics were admissible, and that was at the commencement of the attack, and before the

brain and its accessories should have ceased to perform their respective functions. Local remedies should also, Mr. Cox said, enter the category of remedial agents. The uterus should be washed every six hours with alum ʒj, carbolic acid ʒj, glycerine ʒiv, aqua Oj. Ergot of rye should be administered either in the ordinary manner or subcutaneously. The latter was to be preferred, as the power of swallowing soon became a matter of difficulty. Twenty-four grains of the ergot should be injected every six hours. Stimulants were undoubtedly useful agents to employ. Stimulants although most essential, often fail to bring about restoration, unless accompanied by other means, and that, Mr. Cox said, led him to the one remedy above all others, which he considered to be the sheet anchor in all such cases, namely, "the cold, wet pack." In trying that method, however, constant supervision was necessary, otherwise the remedy would not only prove useless, but would give an impetus to the disease. Crushed ice to the back of the head or poll was a useful adjunct to treatment. If not procurable cold irrigation or cloths immersed in cold water should form a substitute. In Pulmonary Apoplexy it was necessary to abandon the "general" for the "chest pack." *Secondary Pneumonia, Motor Paralysis, and post-mortem* appearances, were next noticed by Mr. Cox, and he then proceeded to state that he had long held the opinion that Parturient Apoplexy ought to be of the rarest occurrence. Were they dealing with some subtle influence similar to that at work in contagious diseases their efforts to check its progress might prove futile, but they had not that contingency to face. If it be true that hereditary taint entered the list of predisponents, it was their duty to guard against the introduction of a breed which possessed that unwelcome feature. Where any predisposition was evidenced the greatest care should be manifested in the treatment generally. Mr. Cox said he knew of no better preventive of Parturient Apoplexy than that which resulted from a judicious amount of exercise. Judicious feeding and exercise would in many instances ward off an attack of the disease. The secretion of milk should be encouraged by shampooing the udder and occasionally withdrawing its contents. After the birth of the calf they must act with the greatest promptitude or the disease might steal a march from them, as Parturient Apoplexy was one disease amongst many others that might in a great measure be prevented. In his concluding remarks, Mr. Cox referred to the flesh of animals so affected in its relation to human food. He said when the flesh of an animal thus affected became unfit for consumption, it was often rendered so by human agency. If the disease was allowed to run its course unmolested, it, unless it be of a protracted nature, developed nothing antagonistic to the health of human beings. They were not dealing with an affection having for its propagation septic properties, but with one which emanated from the ordinary conditions of life. Sanitary status, however, provided a limit by which flesh of that kind should form food for the community. If the animal succumbed to the disease or was slaughtered before structural change took place, the flesh was perfectly wholesome, but not otherwise. The flesh of an animal suffering from Puerperal Fever was, however, dangerous to a degree, and should never be allowed to find its way into the market. The paper occupied an hour in reading, and at the conclusion Mr. Cox was warmly applauded.

Mr. GREAVES said the subject was one of great interest, but at that late hour it would be impossible to enter into the discussion, and he therefore proposed that the discussion be postponed to the next meeting.

Mr. BEDDARD seconded the proposition, and it was agreed to.

The CHAIRMAN said the question of docking—Is it cruelty? was down for discussion, but he suggested that that subject, which was a very important one for the profession, should also be postponed.

Mr. WRAGG seconded this proposal, and it was also agreed to.

Mr. TIPPER suggested Gloucester as the place at which the next meeting of the Association should be held.

Mr. STANLEY wished to suggest Birmingham, and made a proposition to the effect that Birmingham be selected.

Mr. TRIGGER said he would like to see the President first take the chair in his own town, and accordingly seconded the motion, and as there was no further opposition, it was agreed to.

Mr. OLVER asked the question as to whether the National Defence Association would support any member who was prosecuted for docking. A short discussion took place on the question, but no definite answer could be given, and it was allowed to stand over to the next meeting of the Association.

Upon a motion of Mr. WRAGG, seconded by Mr. SMITH, a vote of thanks was accorded to the retiring officers.

Mr. CARTWRIGHT then exhibited the bones of a horse, showing a most peculiar case of dislocation of the shoulder-joint, and the meeting terminated.

The members subsequently sat down to an excellent dinner, provided by Mrs. Spafford, of The Plough Hotel. Mr. Carless presided, and the vice-chair was occupied by the newly-elected President. A very pleasant evening was spent.

LAWRENCE C. TIPPER, *Hon. Sec.*

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE annual meeting and dinner (21st, or majority meeting) were held at the Queen's Hotel, Leeds, on Friday, the 1st of February, the President, Mr. Parlane Walker, Halifax, in the chair; the following members were also present, viz., Professor Williams, Messrs. Naylor, Greaves, J. S. Carter, Peter Walker, Thomas Fletcher, Pratt, Deighton, Whitehead, J. Bell, Hardie, Snarry, Robertson, Joseph Freeman, J. H. Carter, F. F. Carter, Greenhalgh, H. Cooper, Pickering, Scriven, Atcherley, B. Smith, A. W. Mason, T. C. Toop, A. W. Briggs, Ferguson, and Broughton.

The following gentlemen were present as visitors, viz., Mr. R. Rowe, A.V.D., 11th Hussars; Messrs. P. Taylor, Whittle, W. A. Taylor, E. Faulkner, and S. Locke, Manchester; S. Briggs, Bury.

Apologies for non-attendance were received from Messrs. Dray, James Freeman, Anderton, J. M. Axe, Danby, Bale, Lodge, G. Schofield, also from Dr. Fleming and other friends.

The minutes of the previous meeting were read and confirmed.

The SECRETARY proposed, and Mr. PETER WALKER seconded, the election of Mr. F. Percy Carter, Bradford.—Carried unanimously.

The SECRETARY nominated Mr. A. W. Mason, Leeds.

The President nominated Mr. James Bell, Brighouse.

Mr. GREAVES withdrew his proposition in favour of Mr. Naylor's amendment, viz., "That one hundred pounds from the funds of this Society be given to the Building Fund of the R.C.V.S." This being put as a substantive proposition was carried almost unanimously.

Professor WILLIAMS made a few remarks upon Azoturia, etc.

The PRESIDENT then delivered his inaugural address as follows:—

I wish first of all to thank you for the honour you have done me in electing me to the dignified position of President of the Yorkshire Veterinary Medical Society. The position is one not free from responsibilities, and I have been somewhat anxious in my mind, that your suffrages might be unworthily bestowed.

However, I need not assure you, that the society and the profession have my utmost sympathy and labour, and anything that I can do will be a

pleasure. I am sure that I am but expressing the sentiments in these words of you all, because, I believe, whatever diversity of opinion there may be, every one is actuated by a disposition to try and do credit to our noble profession.

It is not the least advantage of such societies as this, that opportunities are given for the ventilation and discussion of various matters that affect us.

This society, as you will be aware, has now attained its majority; let us hope that it may grow in vigour and usefulness as years roll by. I may say in passing that I have been a member of this society ever since I came to Yorkshire, nearly twelve years ago, and previous to that was associated with the parent society in Glasgow from the outstart of my career; and here I would express an urgent invitation to all members of the profession who are not members of a society to become so immediately, for in my humble opinion, and in that of many whom I have heard refer to it, these societies are our vitalising influence and life. I see here the father of this society—our friend, Professor Williams. I am proud to welcome him in the name of the manhood of this society, which he conceived and cherished in its inception; we wish him every success in his new school, which in itself is an evidence of his undaunted courage, force, and ability. I regretted to hear yesterday that a portion of the school should have been destroyed by fire; and I am sure we shall all hope that the inconvenience will be but temporary. Now for the memory of Professor Dick. Where is the veterinary surgeon whose heart was not at Edinburgh on the 24th October last, when spontaneous and heartfelt honour was paid to the memory of this *big-souled man* by the unveiling of his statue? He lived for the profession. He died in the profession, and dying left indelible footprints for all time, footprints that, as Longfellow says,—

“That perhaps another,
Sailing o’er life’s solemn main,
A forlorn and shipwrecked brother,
Seeing, may take heart again.”

Professor Dick and his no less estimable sister, left nearly their all for the advancement of the medical and veterinary medical sciences; let their memories be embalmed in our breasts.

There are many matters before the profession that can only be touched upon.

This, you know, is an eventful year, inasmuch as it sees the commencement of the Penal Clause of the Veterinary Surgeons’ Act, and no one will be permitted from this time to assume the title of veterinary surgeon who has not passed the curriculum of the schools. It is, undoubtedly, a step in the right direction, and will ultimately lift the profession to a position that it has not hitherto enjoyed. There may be doubts in the minds of some that the sowing broadcast of licenses, to empirics of five years’ standing, may be a questionable proceeding, but I feel sure all will be glad to have the protection this Act affords at whatever costs.

Our political basis is getting more firmly established; we have evidence of this in the Act just mentioned, and the endeavour to obtain a school for Ireland, with an independent licensing board, this latter having been so far, and properly, I think, held back; let them have a school by all means, but don’t multiply the centres of authority.

The schools of the present day have many advantages over those of twenty years ago, and I think with the progress of general education, it is right for the well-being of the profession that greater things should be expected from the students. I know not whether much advance has been made in the practical examination but judging from my own experience at the college, there

was plenty of room for it. Had I had no practical experience before going to college, it is little I should have attained there. Never was I asked to diagnose a case, and none to treat it: no inquiry was ever made either in the college or by the examiners, even whether I could make up a physic-ball and administer it. Surely there was room for improvement here, in order that students may not be cast adrift to get their practical experience altogether at the public expense.

And here let me say a word on professional etiquette. This is not of very high standing in our locality, but what can we expect when such courtesies (save the mark !) are flung in broadsides at us, by those whom we presume are high in the profession, and ought to know better? *vide* the letter of the Council-man in the January number of the VETERINARY JOURNAL.

We cannot but feel grateful that we exist at all under such appreciation. For myself, I hope to continue, and would recommend those who presume to be in authority to exercise a little more charity, or, it may be, common sense, and credit others of their brethren with having some knowledge, and with having done some little to uphold our character and diminish friction. If the roots are cankered, what can we expect of the branches?

Who is this Council-man, or white elephant, that arrogates to his board all the virtues of the profession? His vapouring might have more weight had he the assurance to append his name, or even grace our association by his august presence. I venture to think that he might profit in more directions than one, and be persuaded that there was some good outside the (to him) charmed circle of the Council.

It is to me a matter of unfeigned regret that the pupilage clause was not freely accepted—a pupil to serve one year with a veterinary surgeon before going to college, and another year after he has done with the college, and before he treads up for his final practical.

Theory is of course right and proper, so far as it goes ; but I can unhesitatingly say that to work as hard as man can, and accepting all the opportunities the schools afford, he is left comparatively unfledged at the finish, so far as any additional valuable practical experience goes. Of course I am not now wishing to cast reflections in any way. I shall be very sorry to offend any one. The subject-matter is the system ; if it is improved I shall be delighted to hear it, and if it is not, I shall quite as much regret it.

The general preliminary examination is one which seems to call for notice. There is something very materially wrong here, inasmuch as a candidate can go to one school and be rejected, post off to another and pass. I think it is time we had either an equalised standard or a central board of examiners.

What seems to be of general interest, and to be very much exercising our minds, and also that of the community now, are contagious diseases. My opinion is that we have a lot to learn on this subject. I have long thought that Pleuro-pneumonia in cattle can exist without showing itself in the lungs and chest. We can have the fever and nothing more. Also I maintain that effusion can take place in other organs ; for instance, the meninges of the brain. I have had an illustration of the latter lately.

Again, the present experiments are being carried out in the Brown Institution respecting Typhoid Fever in swine. We may hope for some clearer light at the close of these investigations. I think that hundreds of pigs have been killed which had no Typhoid Fever. Experience teaches me that discolouration of the skin of the pig is present both before and after death in many febrile affections, especially of an acute character. The skin of the pig seems to be the outlet of all febrile affections ; so much so, that at the period of œstrum a sow is not killed from the same cause. In Rabies we have a wide field for investigation. Recent experiments convince me

that Dumb Rabies is neither communicable to man or the rabbit, and that the latter disease and Rabies are two distinct diseases; also all dogs showing symptoms of madness are not rabid. The healing process of a wound from a bite, in my opinion, may account for many alarming symptoms. I may say, for the benefit of our younger members, that after nearly twelve years' experience as inspector in the largest parish in England, I have never found Pleuro-pneumonia, Foot-and-mouth Disease, or Typhoid Fever, of spontaneous origin, but nearly all traceable to the markets.

Now I want to take you on to totally different grounds, and that is the breeding, breaking, and education of our best friend, the horse. To use a homely phrase, it may appear to some as a far-fetched subject; but has it never occurred to you, that something could and ought to be done to ameliorate, if not utterly change, the present haphazard state of things? The characteristics of the horse appeal to us all: he is intelligent, benevolent, and honest, and eminently social, a companion and slave; he has good memory of persons and places, acute sensibility to kindness, attachment to those who treat him well, and forgiving to a degree to those who treat him ill, and docility under judicious treatment—indeed, what qualification will not a friend ascribe to him! And yet, in the face of all these, where do the *screws* come from? Possessed of all these good points, both in symmetry, blood, bone, action, and ranking high in endurance, yet, nevertheless, through some overruling organ in his mental faculties, he refuses to do duty. It will be readily admitted that there is an individuality in the horse, and that he possesses mental power of an understood quantity.

It is the breeding and education of this mental power that I want to get at, for I believe that there is no force in nature, common to our existence, so powerful and effectual, for good or evil, as *mental force*.

What can be expected from two peevish animals being put together but an offspring of a like character, in a much more pronounced degree? The exercise of greater care should be impressed upon breeders as to the mental characteristics of the animals they are putting together. I ask, where do we find the least attention paid to this, and should not our profession take cognizance of it?

Then as to the horse's education, where do we find the breaker who has the time allowed him to develop or restrain, as needs be, an animal that may be entrusted to him?

Our profession should endeavour to adopt some means which would, at any rate, tend to check the present ill-advised mode of bringing forward the horse. I think there ought to be a training school for breakers, and that proficiency ought to be recognised and certified, and that when a horse is leaving the breaker he could take his credentials with him, so that his education might be continued. By this means I think we should be doing much to improve the breed of the horse, and establishing a claim to usefulness, value, and safety to the community in this direction which we have altogether neglected; we should have fewer *screws*, and the public would be safeguarded all round. Is this desire Utopian? I hope not, and I shall be glad to have this subject ventilated at some of our meetings.

This is, of course, a comprehensive matter, and the more it is looked at the more important it becomes. How often are breeding operations carried on from stock suffering from hereditary diseases! this and kindred subjects are all matters properly to be alluded to in this portion of my remarks.

I think Government should take this matter in hand of decided national interest, and bring about the appointment of veterinary inspection of all animals for stock-getting purposes. I have now only to conclude with an earnest hope that the oncoming year may be as successful as the preceding one, and that we may all co-operate for our collective and individual advantage.

Prof. WILLIAMS proposed a vote of thanks to the President for his able and interesting address, seconded by Mr. NAYLOR, and carried unanimously.

At the dinner congratulatory remarks upon the Society being in a flourishing condition upon attaining its majority were made by Prof. Williams, P. Taylor, Whittle, W. A. Taylor, the Hon. Sec., and other speakers, the proceedings of the day being thoroughly instructive and enjoyable.

W. BROUGHTON, *Hon. Sec.*

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this Association was held at the Blackfriars Hotel, Manchester, December 12th, 1883. Tea at five, and business at six p.m.

The President, Mr. Wm. Woods, occupied the chair. There were also present—Messrs. Peter Taylor, Jas. Polding, Wm. Dacre, Alexr. Bain, Wm. Leather, J. Bunnell, J. Hart, E. Faulkner, Alexr. Lawson, Wm. A. Taylor, T. Hopkin, A. M. Michaelis, T. Briggs, Wm. Whittle, S. Locke, J. S. Hurndall, J. W. T. Moore, Thos. E. Horrocks, and J. B. Wolstenholme, members; also visitors, Dr. Mules, Dr. Renshaw, and Dr. Wolstenholme; Messrs. Charles Phillips, 3rd Dragoon Guards, Munro, Ryan, Crook, G. G. Mayor, Wilson, and Jones.

The minutes of the last meeting were read and confirmed.

Letters of excuse were received from Messrs. Jas. Marshall, C. W. Elam, W. Lewis, T. A. Dollar, L. Butters, and N. M. Barron.

The SECRETARY read a letter received from Mr. F. Dun, who regretted his inability to attend the meetings, and requested that his name be withdrawn from the list of members. This was put to the meeting, and agreed to.

The following gentlemen were then nominated for membership, viz.:—Messrs. Arthur New, M.R.C.V.S., Worsley; J. S. Hurndall, M.R.C.V.S., Liverpool; G. G. Mayor, M.R.C.V.S., Kirkham, near Preston.

Mr. PETER TAYLOR then referred to the great loss this society and the profession had sustained in the death of Mr. Thomas Taylor; he was one of the oldest members of the Association, and most zealous in promoting the welfare of the society and the advancement of the profession. Mr. Peter Taylor concluded by moving, "That an engrossed letter of condolence be forwarded by the Secretary to Miss Taylor, expressing the sympathy of this society with her in the bereavement, and our appreciation of her father's worth."

This was seconded by Mr. WM. WHITTLE, and carried unanimously.

The TREASURER then submitted his annual report, and the election of officers for the ensuing year was proceeded with.

Messrs. Peter and W. A. Taylor were re-elected Auditors.

Mr. Peter Taylor was elected President, and in briefly thanking the members for in this manner honouring him, remarked that it was the second occasion on which he had served, and that after a lapse of about twenty years.

Mr. HOPKIN proposed, "That the best thanks of this Association be given to our retiring President for the admirable manner in which he has fulfilled the duties of his office."

This was seconded by Mr. P. TAYLOR, and carried unanimously, to which Mr. Woods briefly replied.

Mr. Thos. Briggs was re-elected Treasurer, and Mr. J. B. Wolstenholme was re-elected Secretary.

A vote of thanks was accorded to the Secretary and Treasurer for their services during the past year, to which they briefly replied.

Messrs. Wm. Dacre and S. Locke were elected Vice-Presidents, with the retiring President *ex-officio*.

Mr. Thos. Greaves had unfortunately to attend a Council meeting in London, so that the reading of his paper on "Glanders" was postponed until the next ordinary meeting.

Dr. MULES, of the Manchester Royal Eye Hospital, then read a very interesting paper on—

1st. The relation existing between ocular surgery of human beings and animals.

2nd. "On the means of accurate diagnosis in eye disease."

The doctor spoke on the second point first, and endeavoured to show how by using a simple ophthalmic mirror, nearly all shades of cornea and lens opacity could be detected even by a tyro, and that those escaping the mirror could be easily seen by using a convex lens of two and a half inches focus and direct light. He pointed out the commencement of cataract at the edge of the lens, as only to be detected by the mirror after previously dilating the pupil, and remarked that the catoptric test was useless for cataract commencing thus at the periphery, which is indeed the usual point of origin.

In cases of shying, where the habit was inveterate and not traceable to nervousness, Dr. Mules was inclined to consider it as due to change in the cornea distorting the objects; this also is recognisable by the mirror.

In case of dangerous shyers in old horses, the doctor would recommend that instead of using closed blinkers, the pupil be dilated with atropine and a fine needle passed into the lens; this would bring about milky opacity and blindness, and cause less disfigurement than any other method.

Of the relation of the eye-diseases of human beings and the lower animals, Dr. Mules pointed out the treatment adopted in the former, and urged veterinary surgeons to apply the same to their patients; he spoke of the value of pure atropine inserted under the lid for all affections of the iris in horses, particularly when the result of injury.

The use of solid atropine or its solution necessitates that the surgeon himself, or some very trustworthy person only should use it, on account of its exceedingly poisonous nature—the doctor uses atropine with gelatine—made by dissolving sufficient gelatine to cover with a thin film a sheet of glass eight inches square. Warm the glass, mix eight grains of atropine with the jelly, and then pour it on to the warmed glass, until it runs and covers it all over. Allow it then to become cold, when it will skin off, and may be cut into pieces half the size of a sixpence for use. When introduced under the lower lid the effect is rapid, and the dilatation of the pupil strong; one disc daily will suffice for maximum dilatation.

In commencing neuritis of the optic nerve, the ophthalmoscope mirror gives easy identification, and it is in this stage, before the condition of amurosis is present, that treatment is of use.

In corneal affections, Dr. Mules laid great stress upon the necessity for constitutional treatment, and freedom from all conditions favouring malnutrition; soothing local applications are to be applied so long as the disease is active, and in ulceration of the cornea, atropine must be used to fix the iris and prevent adhesions between the two.

The doctor then referred to the researches of Koch, Fauchi, Cohnheim, and others on tubercle infection, and the identity between that disease in the human and bovine species.

Finally, Dr. Mules pointed out the value of ophthalmoscopic examination of the eyes, from the certainty it gave to warranties of valuable horses, and further stated that without this means being adopted some incipient disease capable of destroying vision rapidly, might easily be overlooked, and placed to the discredit of the veterinary surgeon.

The doctor exhibited a case of beautifully-prepared eye specimens mounted in glycerine jelly, fully illustrating his remarks.

Mr. WM. DACRE then exhibited a Pomeranian dog, from one eye of which Dr. Mules had removed the lens, and also proposed to remove the other. The dog, before the operation, was totally blind from cataract, and now he seemed to be able to distinguish somewhat by means of his visual organ.

A short discussion followed, in which the members expressed their indebtedness to Dr. Mules for the interesting paper. With respect to extraction of the lens for cataract, several gentlemen thought that, inasmuch as our patients could not use spectacles to compensate for the loss of the lens, the very imperfect vision which would result would be even worse than blindness.

Dr. MULES then demonstrated the use of the ophthalmoscope on a schematic eye, and introduced a series of retinas, illustrating various stages of optic neuritis and amurosis, which the members and friends viewed with interest and pleasure.

A hearty vote of thanks was accorded to Dr. Mules, and the meeting terminated.

JOHN B. WOLSTENHOLME,
Hon. Sec.

NORFOLK AND EASTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE twelfth meeting of this Association was held at the Norfolk Hotel, Norwich, on February 5th, Mr. J. D. Overed, President, in the chair. The members present included, Messrs. A. H. Santy, Norwich; W. Shipley, Great Yarmouth; J. Hammond, Bale; R. Howard, Thetford; T. E. Auger, Wymondham; E. Barker, St. Faith's; and R. T. Barcham, North Walsham. Letters were received from several members regretting their unavoidable absence from the meeting.

The minutes of the last meeting having been read and confirmed, the PRESIDENT stated that he had written to several members of the Association to prepare a paper for this meeting, but without success; an offer to do so had come to hand after the circulars convening the meeting had been posted, which he regretted was too late to be available on the present occasion.

A letter was then read from Professor Thomas Walley, Principal of Dick's Veterinary College, Edinburgh, in reply to an invitation from the President, consenting to prepare a paper and to attend a meeting at Norwich in May next, on which the Hon. Secretary was requested to thank the Professor, and to suggest, "Skin Diseases, including those of Parasitic Origin," as the subject of his paper for the next meeting.

The accounts of the Association for the past year (having been previously audited by Messrs. Hammond and Shipley) were then submitted to the meeting and adopted, a balance having been declared in favour of the Association of £28 14s. 10d.

The election of officers was next proceeded with, and, on the motion of the PRESIDENT, seconded by Mr. SHIPLEY, Mr. G. A. Banham, F.R.C.V.S., and member of the Court of Examiners, Cambridge, was unanimously elected President of the Association for the ensuing twelve months. Mr. W. J. T. Bower, East Reedham; Mr. T. E. Auger, Wymondham; and Mr. R. Howard, Thetford, were unanimously elected Vice-Presidents; and Mr. J. D. Overed, Beofield, was unanimously re-elected Treasurer and Hon. Secretary. Mr. E. Slipper, M.R.C.V.S., Norwich, was proposed as a member of the Association.

Mr. SANTY, in an energetic speech, next introduced to the favourable consideration of the members the subject of R.C.V.S. Building Fund, which he

described as a most worthy object, much in need of pecuniary support, and concluded by moving that this Association do vote the sum of twenty pounds from the balance now in the bank in furtherance of that object, which, being seconded by Mr. SHIPLEY, on condition that the subscription list is sufficient to secure the late Mr. Field's legacy of £1000 in aid of the said Fund, after considerable discussion was carried unanimously, the President and Mr. Santy being requested to obtain the requisite information, and to act on behalf of the Association in this matter.

A cordial vote of thanks having been accorded to the President and other officers for their past services, was suitably acknowledged, and the meeting terminated by the members taking tea together.

J. D. OVERED, *Hon. Sec.*

DEVON COUNTY VETERINARY MEDICAL ASSOCIATION.

AN influential meeting of members of the Royal College of Veterinary Surgeons, residing in Devonshire, was held at the "Half-Moon" Hotel, Exeter, on February 7th, to consider the advisability of forming a Veterinary Medical Association for the county. Present:—Messrs. T. D. Gregory, J. A. Collings, F. H. Gibbings, W. Roach, H. P. Chase, F. R. Stevens, R. L. Penhale, A. J. Down, J. H. Penhale, and W. Penhale. Telegrams and letters were received from Messrs. G. P. Short, W. Penhale, jun., and C. Parsons, stating their inability to attend the meeting, but desiring to have their names enrolled as members.

On the motion of Mr. Gregory, Mr. Collings took the chair.

It was stated to those present that it would be very much to the interest of members of the profession who resided so far west, if an association were formed which would hold its meetings in a central district of the county, so that all might have an opportunity of attending them. A feeling had been existing for some time that such an association should be formed, as questions, both scientific and political, were daily cropping up which were of vital importance to the profession, and it was every one's duty to be cognizant of them. It was therefore resolved that a Veterinary Medical Association for the county of Devon should be at once formed, Fellows or Members of the Royal College of Veterinary Surgeons, residing outside the county, to be eligible for election. An annual subscription of ten shillings and sixpence to be paid by each member.

M. T. D. Gregory was unanimously elected President; Messrs. J. A. Collings, C. Parsons, and H. W. Thomas, Vice-Presidents; W. Penhale, Secretary; and F. H. Gibbings, Treasurer.

The first general annual meeting to be held at the "Half-Moon" Hotel, Exeter, on March 13th, at two o'clock, after which the members will dine together.

Mr. J. A. Collings was appointed dinner-steward.

W. PENHALE, *Hon. Sec.*

THE WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting was held in the Veterinary College, Glasgow, on the 30th Jan., Vice-President, Prof. McCall, in the chair. The following members were present:—Messrs. Robinson (junr.) and Macfarlane, Greenock; Jarvie, Carlisle; McFarlane, Doune; Peddie, Cathcart; Rutherford, Edinburgh; Bryce, Stirling; Pollock, Hamilton; Pottie, Paisley; Allan,

Clarkston ; Nesbit, Galston ; Taylor, Cathkin ; Boyle, Weir, Mitchel Wyper, and the Secretary, Glasgow.

Apologies for absence were received from Mr. Camphill, Kirkcudbright ; Mr. Constable, Inchtute ; Mr. McIntosh, Dumfries ; Mr. Dickson, Glasgow.

The minutes of last meeting having been read and approved, the CHAIRMAN called upon Mr. Robinson, junr., who read an excellent and exhaustive paper on Hæmorrhage.

The consideration of the proposed new rules next engaged the attention of the members, and after careful examination they were passed with some unimportant alterations.

Mr. RUTHERFORD then intimated the nature of the arrangements, which had been made for the conjoint meeting of the Scotch societies to be held in Edinburgh on the 22nd February.

Mr. POLLOCK, M.R.C.V.S., Hamilton, next called attention to the recent appointment of an "Existing Practitioner" as Veterinary Inspector to the Local Authority of Hamilton, the particulars of which have already appeared. Several members having spoken in condemnation of the appointment as a professional slight, it was agreed to instruct the Secretary to write to Prof. Brown, and call his attention to the subject.

J. MACQUEEN, *Treasurer and Secretary.*

THE SCOTTISH CENTRAL VETERINARY MEDICAL ASSOCIATION.

THE eighth quarterly meeting of the above Association was held in the "Salutation Hotel," Perth, on Friday, the 18th January, at two p.m. Mr. Andrew Spreull, F.R.C.V.S., in the chair, the following members, etc., being present, viz. :—Messrs. Galloway and Johnston, Perth ; Black, Lochee ; Kay, St. Martin's ; Constable, Inchtute ; Spalding, Blairgowrie ; and Clark, Coupar Angus.

The minutes of the previous meeting having been read and confirmed, the next business on the programme was the election of office-bearers for the ensuing year.

After some discussion, Mr. Spreull was urgently requested to again allow himself to be brought forward as President for another year. Mr. Spreull expressed his reluctance to this, but ultimately agreed to do so, and was consequently elected President.

Mr. Philp, St. Andrew's, having sent in his resignation as Treasurer, it was considered desirable to combine the offices of Treasurer and Secretary. Mr. Clark, Coupar Angus, who has held the office of Secretary since the formation of the society, was requested to take the combined office, and agreed to do so.

The Vice-Presidents for the ensuing year are Messrs. Bissitt, Brechin ; Reid, Auchtermuchty ; and Ritchie, Forfar.

Messrs. Spalding and Freeland, of Blairgowrie, were nominated for membership.

The PRESIDENT brought before the meeting the subject of the annual reunion, to be held in Edinburgh in February, between the three Scottish associations. It was resolved not to send any formal notice from the Association, but that each member answer the circular of invitation from Edinburgh individually. The President next called upon the Secretary to read his paper on "Narcotics and Sedatives," with special reference to the action of muriate of morphia in veterinary practice. After which, the meeting was brought to a close by votes of thanks to office-bearers and essayist.

JAS. CLARK, *Hon. Sec.*

ONTARIO VETERINARY ASSOCIATION.

THE annual meeting of the Ontario Veterinary Association was held in the Ontario Veterinary College, Toronto, on Dec. 21st, 1883. A number of members from all parts of the province attended; also some from the United States.

Mr. ELLIOTT, the President, opened the meeting with an interesting address. He said our numbers were not as great as he could wish, considering the number of qualified practitioners of veterinary medicine in the province of Ontario; still, he thought [as large as other associations of a similar character. During the past year, a number of veterinary associations had been formed in the United States, and it was noticeable the prominent part taken in them by graduates of the Ontario Veterinary College. The profession is fully keeping pace with the other professions in the province. He noticed the marked interest taken in importing and improving stock in Ontario, in which respect they were not surpassed by any part of America. He also remarked that there had been no demand on the funds of the Association to defend any of its members in lawsuits in connection with their practice—a fact that spoke well as to the satisfaction they were giving the public.

The Secretary's, Treasurer's, and Auditor's reports were then received and adopted, showing the finances to be in a healthy state.

The Registrar reported a steady increase in the number of practitioners registering. Still, there were many qualified practitioners in the province who had not yet registered.

The Secretary produced a number of communications from graduates on subjects of interest, also from Acton Burrows, Esq., Deputy Minister of Agriculture, Manitoba, enclosing crop statistics, veterinary and health reports, etc.; also a copy of an Agricultural Act just passed, that places the veterinary profession in a good position in that province.

A discussion then took place as to changing the date of the annual meeting. It was ultimately decided not to change it. But it was resolved "That we have a summer meeting next August."

The election of officers for the ensuing year then took place, with the following result:—Mr. O'Neil, London, President; Mr. Coleman, Ottawa, 1st Vice-President; Mr. Lloyd, Newmarket, 2nd Vice-President; Mr. Cowan, Galt, Treasurer; Mr. Sweetapple, Orhawa, Secretary; Messrs. Elliott, J. S. Cæsar, Carter, Badgerow, Hamilton, Shaw, Quin, and Beatty, Directors; Prof. Smith, Honorary Director; Messrs. Steele and Austin, Auditors.

Dr. DUNCAN was then called on, and read a paper on *Actinomyces*, which he had discovered in the tongue of an ox. This [is, so far as reported, the first case in America in which this vegetable parasite has been found in the tongue. In Germany and England, the disease of which this is the cause has recently been investigated and described. The *Actinomyces* flourishes both in man and animals when it has once obtained access to the system. The parasite is a sort of mould, having close affinities to the *Penicilium glaucum*, the ordinary green mould of old leather. The *Actinomyces*, however, shows a distinct radiating structure under the microscope. When this mould enters the system under favourable circumstances, it propagates itself rapidly. If in man, the tendency is to suppurative processes; but in the lower animals, the result of the infection is seen in tumours of the jaw-bones (the osteo-sarcoma of the older writers), pharynx, skin, udder, lungs, and tongue. This last affection is usually called tubercular in its character. In order to ascertain whether this condition of the tongue is very prevalent, the essayist had written to many veterinary surgeons in different parts of the

American Continent. In only one case had his correspondent seen anything like it. Actinomykosis of the jaws is, however, common. Dr. Belfield, of Chicago, and Dr. Osler, of Montreal, have recently described cases of this. Several cases of this disease have been noticed in man in Germany ; some recovered, but the greater proportion died. It probably exists in man in America, but has not yet been recognised. It is probably transmissible from animals to man. Dr. Duncan exhibited drawings and the morbid specimen. The specimen was sent for examination by Mr. Aikenhead, V.S., of Goderich.

A motion was passed that the thanks of the meeting be presented to Dr. Duncan for his very interesting and instructive paper.

Mr. COWAN read a paper on Castration, and the different methods of performing that operation. This was followed by a lively discussion, in which a number took part. The operations by ligaturing the artery, the clams, and the ecraseur, had each warm advocates, that by the ecraseur appearing to be steadily gaining in favour.

Mr. SWEETAPPLE brought up the subject of Glanders, its increase in the country, and the need for some stringent legislative measures being adopted relating thereto ; and a motion was passed that the Secretary be instructed to memorialize the Minister of Agriculture as to the advisability of passing a stringent Act in regard to contagious diseases of horses, especially Glanders.

Moved by Mr. WILSON, seconded by Mr. LLOYD, and carried, that the thanks of the meeting be presented to Prof. Buckland, Commissioner of Agriculture, for his regular attendance, and the interest he has always taken in the meetings.

Moved by Mr. O'NEIL, seconded by Mr. WILSON, that the sum of 35 dols. be appropriated for a gold medal to be competed for by the students of the Ontario Veterinary College at the next spring examinations.

Mr. ELLIOTT, on vacating the chair, made a few graceful remarks, and it was moved by Prof. SMITH, seconded by Mr. LLOYD, "That a vote of thanks be presented to Mr. Elliott for his able conduct in the chair during his two years' occupancy of it, and for his strenuous exertions for the welfare of the Association and the profession at large."

The meeting then adjourned, to meet again in August.

C. H. SWEETAPPLE, *Sec. and Registrar.*

ROYAL COLLEGE OF VETERINARY SURGEONS.

EXAMINATIONS IN SCOTLAND.

AT meetings of the Scottish Section of the Court of Examiners of the Royal College of Veterinary Surgeons, held in Edinburgh, on January 24th, 25th, and 26th, the following gentlemen passed their "Final Examination," and were admitted members of the profession.

Edinburgh Old College.

William Franklin...	...	...	...	...	Leamington.
William Frank Anderson	...	...	...	...	Warwick.
William Marsden...	...	...	...	...	Banff, N.B.
John F. Mahony ...	...	...	...	...	Cork.

Edinburgh New College.

Thomas Bell ...	...	...	...	Arbroath, Forfarshire.
Edward James Richardson	...	...	...	Alford, Lincolnshire.
John William Bennett	...	...	...	Leigh, Lancashire.

The following passed their Second Examination.

Edinburgh Old College.

R. H. Potts.

W. Tindall.

H. Wilkinson.

And. Smith (Great Credit).

Arthur James.

James Graham.

Edinburgh New College.

Mason V. Ryder.

J. Fairclough.

George Wilks.

W. H. Blunt.

Donat Leonard.

David R. Kayes.

The following passed their First Examination :—

Edinburgh Old College.

William Lawrence.

Frederick Kidd.

James Hall.

James Barlow.

John Paton.

Glasgow College.

Robert B. Scott.

Walter Hill.

Donald Wooley.

Edinburgh New College.

J. W. Barraclough.

R. RUTHERFORD, *Sec.*

Obituary.

THE Secretary of the Royal College of Veterinary Surgeons reports the following deaths :—W. Lothian, M.R.C.V.S., Berwick, graduated, 1844 ; E. Musgrave, M.R.C.V.S., Hereford, graduated 1839 ; W. Panton, M.R.C.V.S., Blairgowrie, 1872 ; E. Petley, M.R.C.V.S., Bury St. Edmunds, 1842 ; J. D. Peech, M.R.C.V.S., Wentworth, 1854.

Army Veterinary Department.

BY command of Her Majesty, His Royal Highness the Prince of Wales held a *levée* at St. James's Palace on February 21st, when Dr. George Fleming was presented by H.R.H. the Duke of Cambridge, Field-Marshal Commanding-in-Chief, on appointment as Principal Veterinary Surgeon to the Army. Inspecting Veterinary Surgeon, J. J. Meyrick, C.B., was presented by the Adjutant-General of the Forces, General Lord Wolseley, on being appointed a Companion of the Bath ; and Veterinary Surgeon M. I. Harpley, Royal Horse Guards, was presented by Field-Marshal the Lord Strathnairn, G.C.B.

Jurisprudence.

NISI PRIUS COURT, DERBY, *February 9th.*

[*Before Mr. Justice DENMAN.*]

A HORSE WARRANTY CASE.—The case of Walker v. Barling was an action tried before a special jury, brought by a gentleman residing at Barton-under-Needwood, against a veterinary surgeon, of Hereford, to recover £131, damages on account of the alleged negligence of the defendant in giving a

certificate of the soundness of a horse which was suffering from chronic lameness.—Mr. Lawrence, Q.C., and Mr. Graham (instructed by Messrs. Leach and Co, Derby) were for the plaintiff, and Mr. Dugdale, Q.C., and Mr. Etherington Smith (instructed by Messrs. James and Bodenham, Hereford) were for the defendants. In September last the plaintiff was down at Hereford, when he desired to buy an aged bay gelding, which was shown him by a friend named Lutwyche. Not being quite satisfied with his going, he asked Mr. Lutwyche to warrant him. Mr. Lutwyche declined to do that, and it was arranged that the defendant should examine the animal, and report as to its soundness. On October 5th defendant examined the horse for Lutwyche, and certified that in his opinion he was sound, and added “He has a peculiar short action in the front, which I attribute to his upright shoulders, and not to any disease.” Plaintiff thereupon bought the animal for 100 guineas. On the arrival of the horse at Barton, plaintiff found that the animal was lame, and he had continued lame ever since. The animal had been examined by Mr. Cartwright, veterinary surgeon of Wolverhampton, who found that it was suffering from navicular disease, which he said must have been in existence for some months, although he admitted that it might not have been apparent until the animal became lame. The plaintiff sought to recover the amount he had paid for the horse, and the expense he had been put to, £131 in all. The horse was sent down to Barton, and upon being examined by Mr. Walker’s groom the horse was found to go lame, and upon examination there were marks of blistering on the off-fore leg, which appeared to have been operated upon about six weeks previously. The horse had continued lame ever since, and had done no work since the purchase.—The plaintiff and his groom gave evidence.—Mr. Statham, veterinary surgeon, Sudbury, said he examined the horse, and found an enlargement of the coronet and heat of the foot. There was evidence of blistering. The symptoms indicated navicular disease, incipient ringbone, and disease of fetlock joint. To all appearance the navicular disease had existed some months.—In cross-examination, witness said there was a thick scurf on the coronet at the time of examination, and he was doubtful as to the bony deposit, but there was still thickening. The evidence of navicular disease was “pointing,” lessening of the foot, and heat. In a letter witness wrote to Mr. Barling, he did not mention navicular disease, because he thought there would be further correspondence.—Mr. Thomas Simpson, V.S., of Liverpool, examined the horse on the 12th of December, and found him lame in both fore feet, in his opinion, from navicular disease. He was lamer in the off foot than the near foot. Both feet were contracted and hot. The horse “pointed” first one foot and then the other. The disease must have been apparent some time. Navicular disease was incurable. There was luxation, and the bones of the fetlock joint over-rode each other.—Mr. W. Aulton, veterinary surgeon, Derby, said he examined the horse on the 5th February, and found him very lame in both fore legs—quite a cripple. The horse was suffering from navicular disease. He believed the disease was at least of six or seven months’ standing, and he should say it would be apparent to a veterinary surgeon in October. The disease was incurable, and might have been seen before the lameness was apparent.—Mr. Lawson, veterinary surgeon, Manchester, gave similar evidence. He said the disease was of three or four months’ standing, and that there was neither disease of the coronet nor the fetlock joints.—Mr. Dugdale first submitted that there was no evidence to go to the jury of the employment of defendant by the plaintiff. Mr. Walker said in his evidence he never saw Mr. Barling. The horse was examined by defendant for Mr. Lutwyche, who paid Barling.—His Lordship said he would leave the question to the jury.

(To be continued.)

Notes and News.

VETERINARY HONOURS.—It gives us the greatest pleasure to announce that the distinguished French veterinarian, M. H. Bouley, who has already held many prominent offices in the Parisian scientific circle, was elected on January 7th, almost unanimously, Vice-President of the Académie des Sciences. So that in 1885 he will be president of the foremost learned society in the world. This is a very great honour to our esteemed colleague, who not long ago was raised to the grade of Commander in the Legion of Honour; and it reflects honour on the profession of which he is so brilliant an ornament, which he has done so much to promote, and in which he is beloved and venerated by his French compatriots.

Professor Nocard, of the Alfort Veterinary School, well-known in France as a pathologist, has been appointed by the President of the French Republic a Chevalier in the National Order of the Legion of Honour. "Charged with a scientific mission to Egypt to study the Cholera, he has given evidence of the greatest devotion in the accomplishment of this mission."

TEARING OFF HORSES' SOLES.—This cruel operation, so common in the days of farriery, did not escape condemnation, even when most fashionable. For instance, Wallis ("The Farrier's and Horseman's Complete Dictionary"), in 1775, writes: "The custom the smiths and farriers in general have of drawing horses' soles, in order to relieve the inflammation of the part, and to promote a free perspiration, we could never perceive the least benefit accruing from; as this management leaves such a weakness and tenderness behind, that the poor creatures ever after scarce fail of labouring under an incurable lameness. Nor has Monsieur La Fosse, though he has recommended the practice, produced a single instance of its success."

PASSING RICH ON EIGHTY POUNDS A YEAR.—The value of a steady, careful, well-qualified member of the profession does not appear to be very highly estimated by the northern public, and particularly in the neighbourhood of Coaly Tyne. The evidence of this is afforded by the following advertisement, which appeared in the *Newcastle Daily Chronicle* of February 2. "Wanted, a steady, careful, well-qualified veterinary surgeon (by diploma) for Broomhill Colliery, Northumberland, to take entire charge and devote the whole of his time to a large stud of horses and ponies. Salary, first year £80, with free house and coals.—Apply to Joseph Smith, Gosforth Rectory, Newcastle-on-Tyne." There are few artisans, now-a-days, who could not command as favourable terms as those offered for a professional man by the Broomhill Colliery.

Correspondence.
IS DOCKING HORSES' TAILS CRUEL IN A LEGAL SENSE?

SIR,—I am a county magistrate, who is anxious to obtain an opinion founded on the judgment of my brother magistrates throughout the country generally, on the subject of this letter. My personal dislike of anything should not make me give a decision which could not be maintained if appealed against. I am fifty-seven years old, and from boyhood, in the hunting-field, on the racecourse, and in a cavalry regiment, I have had horses as my friends

and servants, and I have had no hesitation in deciding the practice of docking to be unnecessary and cruel. Unfortunately it is a common custom, and to be consistent, thousands should be summoned, and not as now only one occasionally. I think it is shown to be unnecessary for safety in driving, because when a few years ago it was not the fashion to dock horses' tails, carriage accidents were not more frequent than now. That it is cruel I have no doubt. Providence gave the horse a tail for good reasons, as any one who has watched a colt at grass can see. The absence of it when flies are troublesome causes absolute misery. It will also be remarked that those parts over which the tail naturally falls have little or no hair, and therefore need its protection. What does docking mean? It is taking off several joints of the tail, and then searing the bleeding stump with a hot iron. Can any man imagine this torture applied to his finger, rendering it for ever less useful than Nature intended, and deliberately approve of its being inflicted on a helpless animal, to gratify a passing fashion? I am informed that at Carmarthen a conviction was recently obtained and a fine inflicted for docking a tail under circumstances of great cruelty—the operation taking nearly half an hour in all, and the irons having to be heated three times before the bleeding could be stanchd. Was not that revolting barbarity, and who is to say that such cases do not frequently occur, and that in a greater or less degree they must occur so long as the custom prevails? I am informed—all credit to the humane person who so ordered—that by a recent regulation remounts for the cavalry are rejected if thus maimed. Might not this principle be extended, and all docking (except in cases of disease or deformity) be considered to come under the term of cruelty in a legal sense, and therefore punishable by law? I am anxious to do what is right, and remain, sir, your obedient servant, A PUZZLED J.P.

[The question of amputating horses' tails for fashion's sake is occupying considerable attention just now, not only among horsemen, but the public in general. The above letter appeared in *The Daily News* of February 2nd, and the following editorial in the same paper gives a reply to the question :—

“The letter which we publish to-day from ‘A Puzzled J.P.’ is likely to produce more indignation than bewilderment. Whether the practice of docking horses' tails is or is not ‘cruel in a legal sense,’ it is detestably cruel in a moral one. For according to our well-informed correspondent, it consists in ‘taking off several joints of the tail and then searing the bleeding stump with a hot iron.’ To read of such wickedness is enough to make any man of ordinary humanity angry. But the practical question is how to put it down. We venture to say that the remedy is a simple one. No plea of ‘fashion’ can justify the infliction of useless pain. Let magistrates who agree with our correspondent fearlessly convict any one, whatever his position in society, who is guilty of ordering or carrying out this abominable process. They need not be afraid that if they state a case for the opinion of a superior Court their decision will be questioned. They will not find the Judges astute to limit the bounds of legal cruelty. Lord Bramwell is fond of saying that he never could understand what was meant by legal fraud. An act was either fraudulent—that is, dishonest—or not. Lord Bramwell loves to put sound sense in a paradoxical form. What he meant was that the idea of fraud is essentially a moral and not a legal one. Legal fraud is as unnatural a combination as mathematical fraud. Exactly the same reasoning applies to the phrase ‘legal cruelty.’ Cruelty is a moral offence. The law now punishes it when perpetrated on animals. Pain inflicted for medicinal or other sound reasons, as when oxen are knocked on the head to be eaten, does not constitute either a moral offence or a legal crime. If horses are treated in the way our correspondent describes, and no better ground than he suggests can be given for such conduct, there can, we imagine, be little doubt that every one concerned

is liable to a penalty. To procure the universal enforcement of the law may be a more difficult matter. But that only shows the necessity for a real Public Prosecutor.”]

SIR,—So much has recently been said and written concerning the subject of “docking horses,” that probably no more fitting opportunity than the present will offer itself in comparing it with every-day customs, equally, if not more painful.

It is my pleasure to state that I am unacquainted with any member of the veterinary profession who would either knowingly or willingly be guilty of an act of cruelty to any animal, more especially to the horse, whose services we so much appreciate, and whose sufferings it is our aim to assuage, except where the slight temporary inconvenience is more than compensated by his improved appearance and subsequent usefulness.

I very much regret that two or three of the leading members of our College are so violently opposed to the operation of “docking,” looking upon it as an act of the greatest cruelty, and comparing those who perform it to the most barbarous of men.

I believe there are injuries daily inflicted upon horses which cause ten times the amount of pain and suffering than that of amputating a small portion of a horse’s tail—an organ which, I am informed by a late teacher at one of our veterinary schools, is not endowed with a high degree of sensibility, and if it was possible to divide the muscles near its lower extremity without injury to the common integument, little, if any, pain would result therefrom.

In most veterinary practices, I suppose scarcely a day passes without it is considered necessary to place a twitch upon a horse’s nose, and in many cases where its use is entirely uncalled for; as when a small wound is being dressed, or a trivial operation performed. I believe I am correct in stating that the upper lip of a horse is one of the most delicate and sensitive parts of its body; yet daily it is permitted by those who condemn “docking” to be put into a loop of cord and twisted to such an extent that I fail to describe the agony it must produce. “Docking,” as a rule, is performed but once during an animal’s lifetime, except in such rare instances as that mentioned in the editorial of this month’s VETERINARY JOURNAL, and the pain caused by it is incomparable to that produced from applying a twitch, which may be unnecessarily employed fifty times during the same period.

Take again, for example, the fashion of removing a large quantity of hair from the mane and tail. Probably the very horses these gentlemen who so rigidly condemn docking use themselves have not their manes left in that condition in which nature intended them to remain, but periodically undergo a process of trimming. On many occasions I have seen strong men tugging at a handful of hair, which, after much resistance, has been removed from its follicle, followed by an oozing of blood. This act, so regularly performed in well-ordered stables, does, I fearlessly maintain, produce more pain than the simple operation of docking when properly and scientifically carried out.

I have docked horses of my own with no person in the stable except myself, when they have only been secured by the ordinary means which is adopted for tying them up in their stalls, and have observed that during the whole time, and immediately after the operation, they have continued feeding from their mangers. Surely, if such a great amount of pain was being inflicted, a high-spirited animal would conduct itself in an entirely different manner.

I should lay myself open, and very properly so, to the severest ridicule and criticism, were I to state that no pain was caused, knowing, as we all do, that however slight the injury, some inconvenience will arise. But I do

contend that when the amputation of a horse's tail is skilfully performed, it cannot be classed as one of those wanton acts of cruelty, of which I sincerely hope no member of our College will ever be accused.

We are all gratified to acknowledge the great and good work which is being carried out by the Royal Society for the Prevention of Cruelty to Animals; but I cannot give it my entire support so long as it continues to employ inspectors of such limited experience, and when the services of an eminent veterinary surgeon, who is a member of the Royal College, has faithfully and with great ability given it the advantage of his knowledge for nearly twenty years, should be discarded without the courtesy of an explanation, and a man who keeps a public-house in the same town allowed to state upon his cards that he is the appointed veterinary surgeon to the Royal Society for the Prevention of Cruelty to Animals.—I am, sir, your obedient servant,

W. STANFORD HARRISON, V.S.,

Hertford, February 12th.

Herts Yeomanry Cavalry.

[If a twitch is *unnecessarily* applied to a horse's nose or ear, it is undoubted cruelty; and if hairs are torn out from their follicles and blood oozes therefrom, it is no less cruelty. The infliction of *unnecessary* pain—the amount of pain is a mere question of degree—is cruelty; and those who oppose docking argue that it causes *unnecessary* pain. The improvement in appearance is a matter of taste. Those who plead for tail amputation tell us nothing of its utility.]

SIR,—In page 149 of the VETERINARY JOURNAL, Vol. XVIII., Mr. John Colam, secretary to the R.S.P.C.A., in reverting to the case of “sole drawing,” tried in the Cheadle (Staffordshire) Police Court, on June 22nd last, and which resulted in an acquittal of the defendant, animadverts on the conclusion that Mr. Greaves and others arrived at, as to the utility of the operation as a cure for ring-bone and side-bone, and also goes on to state that the logic of subsequent events, as witnessed by observations on the animal, proves that the evidence of the defence is, to say the least, not borne out in this case. Now, sir, it is not my intention to go into the pathology of side-bone and ring-bone, or in any way to speak insinuatingly of the evidence for the defence in this case; but I must say that, as a cure for these two lamenesses, drawing the sole is on a principle which I have no knowledge of whatever, that it is an operation which is attended with a vast amount of pain I have full knowledge, and excepting as a means to get a depending outlet for a suppurating lamina, when other means fail, I think the operation is both useless and cruel.

But my object in penning this article is not to raise a controversy on the cruelty of drawing soles from horses' feet, but to give my quota of argument on the alleged cruelty of docking horses' tails, and on which allegation, and with the corroborating views of some members of the veterinary profession, the Society have succeeded in obtaining convictions before the magistrates, notably one Obey Henry Selby, a farrier, and which case is reported in last August's number of the VETERINARY JOURNAL. Mr. Wright, the Society's lawyer, seems to have laid it down as a point of law, that if he succeeded in proving that the operation of docking caused pain, it was quite sufficient to establish the charge of cruelty; and Professor Pritchard having given evidence to this effect, the magistrates considered the case proved, and Mr. Selby was consequently fined.

Now I think very few qualified veterinary surgeons will be found to be guilty of giving unnecessary pain to any animal in operating for any purpose, and the dictum laid down by the Society places veterinary surgeons in a dilemma, or more properly speaking, between “two stools.” They have

been in the habit of docking their clients' colts and fillies from "time immemorial," and they (the clients) know the utility of the operation ; they do not see any cruelty in it, and they demand us to do it as usual. What are we poor souls to do? We do not wish to infringe the law, or compromise our good names, either by being convicted for performing an operation taught us in our college routine, and which, up till very recently, has not been legally called in question. And, moreover, we have no guarantee or knowledge as to where the Society will draw the line, as we are called upon to perform scores of operations, in which the pain to be endured is a hundredfold more severe than that caused by the operation of docking. I need not allude to any of them here, as they are well-known to the profession.

Since the Society for the Prevention of Cruelty to Animals has thought it their duty to interfere with what has, till recently, been considered to be a legitimate veterinary operation, I think, Mr. Editor, it would be only fair if that body would issue a circular to every member of the profession who is on the register, pointing out what operations they considered illegal, and which they intend to prosecute for. Then, when asked to perform any of these operations forbidden by the Society, they would be in a position to show their clients the Society's circular, and if they still persisted in having the operation done, they could be fairly asked to defend the action if called in question in a court of law, and not just let the "poor vet." be burnt on two sides at once. As to the operation of docking, it is, in the hands of a fairly skilful veterinary surgeon, a supremely simple one, and the pain to be endured is so slight that it is not necessary to put the animal under more restraint than placing a twitch on its nose. A few dressings of a liniment made up of Acid Carbol. Tr. Opii et Ol. Lini to the end of the tail, is quite sufficient both to set up a healthy healing process, and also prevent the supervention of Tetanus. As to saying that no pain whatever is caused by the operation it would be absurd ; the merest six-year-old tyro knows perfectly well that we cannot make a section or disturb the continuity of muscular tissue or bony structure without giving pain, so that to ensure a conviction for cruelty, if pain is to be the legal standpoint, it certainly is not necessary to bring a professor from one of the colleges to establish a case. I have, Mr. Editor, read your article in this month's VETERINARY JOURNAL on the "Fashionable Mutilation of Domestic Animals," and notwithstanding that, I have penned this article in accordance with my views, which I trust you will excuse, and kindly give me space in your next issue for this attempt at ventilating the question.

Warcop, Penrith.

Yours truly,

J. HARRISON, M.R.C.V.S.

"UNSOLEING HORSES' FEET."

SIR,—Seeing an article in this month's VETERINARY JOURNAL, entitled "Is Drawing off the Sole a Remedy for Ringbones or Sidebones?" the said article being from the pen of Mr. John Colam, Secretary to the Royal Society for the Prevention of Cruelty to Animals—a gentleman for whom I entertain the highest respect, and whom I am exceedingly reluctant to think would willingly or knowingly misrepresent me, or intentionally try to damage my professional reputation by writing such an exceedingly unfair and untruthful criticism upon the evidence I gave lately in a court of justice in defence of an old and highly-respected brother practitioner—statements are made in the article referred to which I never uttered, and other statements are unblushingly contorted. I feel this keenly, because I have ever espoused the cause of justice and mercy, and my whole nature is opposed to cruelty in any and

every form, even in docking horses. I strongly oppose indiscriminate docking, but would not give evidence against a veterinary surgeon for docking unless gross malpractice was proved. I am willing to put the most charitable construction possible upon the motives or objects the writer may have had when writing his critique. I know my evidence (and I stood alone, being the only veterinary surgeon for the defence) was accepted, espoused, and acted upon by the magistrates, and their decision in our favour met with an almost unanimous approval by a densely crowded court; whilst, on the other hand, the evidence of the Inspector of the Society, Dr. Fleming, and the other two veterinary surgeons who gave evidence for the Society, failed totally to induce the Bench to accept their view of the case. I may here remark that so strong were Dr. Fleming's partisan feelings, his over-zeal in the good cause, that he allowed himself to be carried beyond the bounds of prudence and decency. He was not content with fair and legitimate fighting, but he must, forsooth, have recourse to unfair and questionable tactics. He was not content with the opportunity afforded him of giving his evidence fairly and openly in court on his oath, but must embrace the opportunity of accompanying one of the magistrates alone a considerable distance down the lane, I am told, arm-in-arm with him, alongside of the lame horse (which had been travelled eight miles that morning), giving him privately his version, his idea of the case, telling a tale of horrible cruelty inflicted in the performance of the operation. This, whatever else it may be called, I call it taking an unfair advantage; and although he used all his skill, logic, determination, and plausibility to influence the magistrates, he failed utterly to convince them that this operation (which he admitted he had never performed, or even seen performed) was, when necessary, and performed by an expert, according to his designation, a brutal one.

And now, since the case has been fairly tried and decided, I look upon it as nothing less than an insult and impertinence, a mark of disrespect for the laws under which we live, to be continually reaping it up, and showing with what a bad spirit some men (and I do not confine the remark to Mr. Colam alone) reluctantly accept prompt recognition of the inevitable, or submit to it with a good grace. I am aware that the case was reported in various newspapers throughout the land at the time. The report varied in different papers. I only saw it in two. I am quite willing to give Mr. Colam credit for having seen it in some newspaper that I have not, that he has accurately and truthfully copied the statements with which he has interlarded his article, and with respect to which I complain and feel myself aggrieved. 1st. Mr. Colam says: "One of these, Mr. Greaves, of Manchester, stated in his evidence that drawing the sole is the best-known and an effectual remedy for ringbone and sidebone lameness." Now I never said anything of the sort in my life; and however any man could have the audacity and effrontery to make such an unwarrantable statement I am wholly at a loss to know. I stated on oath that I had never performed the operation or ever known the operation to be performed for Ringbone or for Sidebone, but I could conceive it might operate beneficially for Sidebone. 2nd. Again, Mr. Colam says: "Mr. Greaves told the Bench there could be no doubt the animal would recover in a month or two." Now I told the Bench nothing of the kind. I said, "I believed in time the horse would go right." 3rd. Again, he says, "The firing of the tendons did no doubt relieve the overshot fetlock to some extent." Now it could have done nothing of the kind. This horse was never fired over the tendons at all. 4th. Mr. Fleming says: "Both forelimbs, from the coronets to the fetlocks, were deeply and most severely fired, cruelly fired on both forelegs." Here, again, is a grossly incorrect statement. One limb only was fired, and that lightly and neatly; the other limb was never touched with the firing-iron at all. Unfortunately, the horse

got his head loose, and got his teeth to the fired pastern, and blemished the parts. 5th. Again, Mr. Fleming called it a sprained tendon; another veterinary surgeon spoke of it as contracted tendons, whereas the back tendons and fetlocks have never been affected in the slightest degree; they are as clear as a foal's, and always have been.

I admitted to the Bench that I had performed the operation of unsoleing forty or fifty times for Canker in the foot, and twice for contracted feet, with almost uniform success; but when I saw several horses brought to the court from distances of five or ten miles, and others ready to be brought, all of which had been operated upon by Mr. Walters, which were lame, useless, and worthless animals before the operation, whereas they are now sound, and worth £40, £50, or £60 each, and every man anxious and willing to come forward and give evidence (as some did) to verify the great benefit their horses had received, the evidence was overwhelming. Although these men were plain, honest, country people, unable to explain how the effect of the operation were produced on scientific principles, and they knew nothing about the operation being recognised by the profession or not, they could only bring the logic of fact to bear on it, and, like the man who was born blind, and whom Christ made to see, they could only say of their horses' lameness and Mr. Walters as he did of himself and Christ—"Whether he be a sinner or no, I know not; one thing I know, that whereas I was blind, now I see."

It will be remembered that Mr. Perry, the owner of the horse, stated in the court that he would have taken £1 for the horse before the operation, and that he would not now take £40 for him; and I have a letter before me, dated 10th instant, wherein it is stated: "The horse has been at work ever since the operation, except the month's rest after the operation, and no animal could go on better."—Yours, etc.,

THOMAS GREAVES, F.R.C.V.S.

TWO SIDES TO A STORY.

SIR,—Your very clever correspondent, Mr. William Hunting, is nothing if he is not a fault-finder, and it is his ambition to pose as such. To find fault does not require much energy or ability, it is true, but then many people think it looks clever to be always differing from their fellows, and habitually contradicting. So little are Mr. Hunting's views and opinions in harmony with those of his colleagues that he generally finds himself in a small minority—very often the glorious minority of one. His criticisms on my letter under the above heading are actuated by the same spirit as all his other attempts at picking holes. On the present occasion they bear no more relation to the subject I touched upon than does a dissertation on wooden legs to a treatise on astronomy. Mr. Hunting occupies a large space in your Journal, just as he occupies a large portion of our time at the annual meetings, in trying to show off his cleverness by treating us to a lot of—if he will pardon my saying so—wearisome nonsense. We all know the fable of "The Body and its Members," and some of us could apply it in a different sense to what your broad-minded correspondent does. His statements are so much beside the mark that it would be loss of time to notice them. We all respect the veterinary professors who have done their duty to the profession, have been loyal to the Body Corporate, and have not damaged us in public estimation. When I speak in this place of professors, I should not omit to mention what the innate and characteristic modesty of Mr. Hunting prevented his alluding to when warmly praising that estimable body of men—that he was himself once a professor for a few weeks; and I think we must all regret the loss that the instructional, and especially the youthful, portion of the profession sustained

in his not remaining a professor. He would have made a good representative of the professorial corps. Had he been at the Council of the Royal College of Veterinary Surgeons on January 29th, when a certain letter was read, he would then perhaps have been ready to confess that his letter to you was simply "Pickles." I was not discussing the merits of individual professors—the relations of Professor Simonds to the Royal Agricultural Society, nor the excessive capabilities of Professor John Gamgee, whose ephemeral career made a great impression on the memories of some of his friends. I was discussing the relations of schools to the profession and to professional progress, and correcting gross misstatements, and the letter read at the Council afforded an illustration of the truth of my observations.

If Mr. Hunting can devote himself to an inquiry into this relationship, and make himself acquainted with the subject generally, then I fancy he will be rather sorry he was at the trouble of wasting his own and your readers' time, and hurling ill-natured but harmless epithets at one who happens to be a

February 14th.

"COUNCIL-MAN."

SIR,—Under the above heading, Mr. W. Hunting, in the February number of the Journal, replies to "Council-man," and expresses views which are somewhat hostile to the Council. He is, however, good enough to give it a little credit, and then in defence of the schools—as against it—he takes an excursion in what may be described as the middle ages of the profession. No one denies that Professors Dick, Simonds, and Gamgee did much good work, and the same remark applies to the professors of the schools; but that is not now the point at issue. We are concerned with *the present*, and we cannot live on the past. "*Tempora mutantur et nos mutamur in illis.*" "Times are changed and we are changed with them." For this we cannot be sufficiently thankful.

Mr. Hunting will, I feel sure, be the last to decry the very great advantages of a good general and professional education. He shows that he does not undervalue it, by giving us, at our annual meetings, what some of his hearers think a rather protracted delivery to his opinions, and many of them, even while they admire, cannot help saying that they wish he would manage to give them expression in less than a fourth of the whole time allotted to a general meeting. "'Tis a consummation most devoutly to be wished;" for even the eloquence of a Burke or a Gladstone would become tedious under such conditions, where others are waiting to be heard, and where the meeting is anxious to hear them. The Athenians said that even the speeches of Demosthenes might be too long. Let us hope that our aspiring orators will take note of such a vulgar, but necessary affair as time!

The great question now is, "Are the schools to govern the profession, or are they only aids to the profession, and is the profession to govern itself?" To this there can only be one answer from all well-wishers of the profession, viz., that the schools should be considered as forming a part of the educational establishment of the profession, and not as its rulers. I am not, and never have been, a member of the Council, and I can therefore impartially appeal to the profession to repose confidence in the representative body which it has chosen, and to say that all honour is due to the members of the Council who give time, and travel long distances at their own expense, to work for the common good.

Let us, as a body, by all means foster and encourage education, which brings to its fortunate possessor wealth, honour, and many social advantages; besides, immeasurably increasing his professional capacity. Let us have a progressive standard of professional education, and in order to ensure it, let us gradually—what is much needed—increase the severity of the examination for our diploma; and, above all, let the final practical test be made so

searching, that we can be satisfied that the candidate has been properly taught to perform such operations as he will be called upon to do, when he goes forth to seek his fortune as a member of the Royal College of Veterinary Surgeons. We have a right to expect that our Council shall have control of the standard of examinations, *preliminary* as well as others, and we should loyally support its authority, and then we shall certainly be able to say to it, "You have well discharged the duty with which we entrusted you as the elected Parliament of our profession." It is only by giving our Council cordial support that we shall enable it to perform its rightful functions as our true governing body.—Your obedient servant,

"PROGRESS."

EDINBURGH VETERINARY MEDICAL SOCIETY.

DEAR SIR,—As the whole of the valuable library belonging to the above Society has been destroyed by the late fire in the new college buildings, would you please publish it in your next issue of the Journal, so that old members may know of it. By doing so you will much oblige the present members. The library was founded by the late Professor Dick, in the year 1834, so that it has been in existence fifty years.—Yours truly,

February 5th.

J. PURDY, *Secretary E. V. M. S.*

[The *Edinburgh Evening Express*, of January 28th, announces that a fire broke out in the New Veterinary College on the previous Saturday evening, which, it is reported, destroyed the reading-room and library of the Veterinary Medical Society. The loss is stated to be covered by insurance.]

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Dr. E. Klein, London; L. C. Tipper, Birmingham; R. Rutherford, Edinburgh; J. Clark, Coupar Angus; A. W. Hill, London; J. Purdy, Edinburgh; R. W. Burke, A.V.D., Cawnpore; J. B. Wolstenholme, Manchester; T. G. Bowick, Bedford; J. Harrison, Warcop; E. H. Sweetapple, Ontario; A. G. Ross, Liverpool; W. Penhale, Barnstaple; T. Greaves, Manchester; "Council-Man;" "Progress;" W. Stamford Harrison, Hertford; J. McQueen, Glasgow; W. Broughton, Leeds; J. D. Overed, Blofield.

BOOKS AND PAMPHLETS: Proceedings of the Physiological Society; *T. Christy*, New Commercial Plants and Drugs; *A. Krajewski*, Ueber die Wirkung der gebräuchlichsten Antiseptica auf einige Contagien; Manitoba Department of Agriculture, Statistics, and Health; Siebenter, Jahresbericht über die Verbreitung Ansteckender Thierkrankheiten in Preussen; *M. E. Decroix*, Neuf Cas de Guérison de la Rage; *Fr. Dominik*, Der rationelle Hufbeschlag.

JOURNALS, ETC.: *Medical Press and Circular*; *Recueil de Médecine Vétérinaire*; *Archives Vétérinaire*; *The Champion*; *Giornale di Anat. Fisiol. e Patol. degli Animali*; *Revue Vétérinaire*; *Tidskrift för Veterinär-Medicin*; *Wochenschrift für Thierheilkunde und Viehzucht*; *L'Echo Vétérinaire*; *Annales de Médecine Vétérinaire*; *Live Stock Journal*; *Der Hufschmied*; *Lancet*; *Field*; *American Live Stock Journal*; *La Presse Vétérinaire*; *La Clinica Veterinaria*; *Mark Lane Express*; *Bulletin de la Société Centrale de Médecine Vétérinaire*; *Journal de Médecine Vétérinaire*; *London Medical Record*; *Der Thierarzt*; *American Veterinary Review*; *Edinburgh Medical Journal*;

NEWSPAPERS: *Newcastle Daily Chronicle*; *Edinburgh Evening Express*; *Irish Sportsman*; *Lahore Civil and Military Gazette*; *Daily News*; *Aris's Birmingham Gazette*; *Freeman's Journal*; *South Eastern Gazette*.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

APRIL, 1884.

CASES OCCURRING IN PRACTICE.—1884.

BY A. E. MACGILLIVRAY, M.R.C.V.S., BANFF, N.B.

ALTHOUGH accused of reporting every case occurring in my practice, and although my treatment seems to be unsatisfactory in the eyes of some members of the profession, I venture to send you the following cases, which I have intentionally confined to obstetrical work, as a slight reminder that it can scarcely be a record of *all* the work I have done since the year began.

1. *Extensive Rupture of the Perineum in a Heifer.*—This accident occurred during the extraction of a full-grown, dead foetus. I was sent for, but being from home, the calving was accomplished before my arrival. The rent between anus and vagina was complete, and greatly extensive, so that at each defæcation the fæces passed out at the vulva instead of the anus. I ordered the injured parts to be kept thoroughly clean, being dressed twice daily; and about three weeks after parturition, when all discharges had ceased, I had the quey properly secured and operated as follows:—Having scraped all the edges in the extensive rent till fresh blood came freely, I introduced along the entire course of the rupture, several stitches of carbolised black silk; I found this very difficult to do as regards the floor of the rectum and roof of the vagina. I did, however, manage to accomplish it; and I am happy to say that adhesion

took place immediately, and complete recovery is the result, the heifer having now as good a perineum as ever she had.

Prior to operating, the quey was kept short of food, and immediately before commencing I washed the rectum thoroughly out with enemata.

I have at present two similar cases, in newly-calved heifers, waiting cessation of *post-partum* discharges before being operated on as above.

2. *Urethro-Vaginal Rupture in a Young Cow*.—This accident also happened during parturition; extraction of the foetus being extremely difficult, requiring several men and ropes before accomplishment. Foetus alive, however, but mother much injured inside vagina.

About a week after delivery I was consulted, as the cow had a great many pains, difficulty in passing urine, and was off her food. On examination, I found a rent in the urethra, about an inch behind the *meatus*—that is, an inch farther along the vaginal floor than the *meatus*; the edges of this rent were swollen and everted, and, owing to inflammatory swelling (from other injuries), all round the vagina, including meatus, I had no doubt the urine escaped through this abnormal opening, being expelled in a very small jet.

The rent was too far in to think of stitching it in any shape, so I adopted the following treatment, namely, sponged the whole of the vaginal canal thoroughly out with carbolised warm water and 10 p.c. carbolic soap; dressed the lips of the wound or rent, and then applied an emollient, consisting of vaseline, zinc ointment, and a little carbolic acid. I continued this treatment daily for a week with the happiest results, the rent gradually closing up, and other parts of the vaginal canal healing with little difficulty.

A complete recovery was effected in this case; and the cow, a handsome, pure-bred poll, is now in America—having crossed the ocean since her treatment and convalescence.

3. *Post-partum Hæmorrhage in a Heifer*.—I was called rather suddenly one forenoon to this quey, as “she was in calving”; but on arriving at the farm, I found I was almost too late, as the fore-legs and muzzle of the foetus were all protruding from the

vulva, with ropes on the legs. Seeing the position to be all right, I ordered immediate traction, and a dead foetus came away with comparatively little trouble.

Delivery was immediately followed by most alarming arterial hæmorrhage, the blood escaping unremittingly in a large stream. I lost no time in injecting a large pailful of cold water into uterus, which somewhat stayed the hæmorrhage; but on the quey assuming the recumbent position, the arterial blood was expelled in large clots, showing that it had not actually ceased, but merely been clotting inside. I injected another pailful of cold water, but still the hæmorrhage went on, and now began to tell severely on the poor patient; breathing became most laborious, heaving at flanks, tremblings all over, cold extremities, ears hanging down, staggering gait, and finally she went down after a few vain attempts to remain standing. The blood again flowed rather freely, and as death was likely to take place very soon, we were just about to send a messenger for a butcher (as the animal was prime fat), when all at once I recollected that I had a phial of "Injectio Morphiæ Hypodermica" in my pocket, from which I immediately injected a quantity containing six grains of morphia. The effect was almost instantaneous; for, as the owner remarked, the injection was not over a minute completed when the hæmorrhage ceased!

This heifer, a favourite and valuable pedigreed animal, made a fine recovery, the immediate after-treatment consisting of plenty of whisky in bottles of good strong tea, and as much water as she would take.

The chief point of interest here is the successful exhibition of the "Injectio Morphiæ Hypodermica."

4. *Anal Atresia in a Calf*.—I was consulted in reference to this case of imperforate anus, and on examination of the little creature, found it a clear case of Atresia. There was nothing but a very slight indentation to mark where the anal opening ought to have been. On tickling this indentation, however, I noticed that well-marked contractions took place, thus proving that the *sphincter* was in existence. Being a bull-calf, I was debarred from making any contiguous internal explorations.

I resolved, however, to operate, and did so by cutting through

the indentation, and introducing sounds of various sizes. It was of no use, however, for I could find no trace of a rectum. As the calf was in good condition, I advised the owner to have it slaughtered. This was done, and a *post-mortem* examination revealed six inches of a small, hard, fibrous cord extending between the natural gut (which ended in a sort of blind pouch) and the imperforate anus.

5. *Prolapsus Recti in a Young Calf*.—This was the most extensive prolapsus of rectum which I have ever witnessed in so young a creature. It occurred after, or rather during a severe Diarrhœa, and when I first saw it, it presented the appearance of a large, red, fleshy tumour, six inches long by nine inches in circumference, torn and bloody, and partially putrid, with a most abominable smell. Severe and almost continual tenesmus existed, and every now and again thin fæcal matter escaped from the centre of the mass. The calf had been ill, off and on, for nearly a week, and now treatment of any sort seemed hopeless.

I resolved, however, to attempt reduction, and as a preliminary I injected three grains of Mur. Morphiæ subcutaneously, and having got a pailful of pretty warm water, with a good handful of carbonate of soda and half an ounce of carbolic acid dissolved therein, I bathed the large protrusion for fully twenty minutes. I then soaked it thoroughly with a strong solution of alum, and finally, with great difficulty, successfully reduced the prolapsus. I now introduced into the rectum as much as possible of the following softening, healing, and antiseptic application, namely, equal parts of zinc ointment and vaseline, with a slight dash of carbolic acid. Having done this, I inserted a large pin-suture right across (without touching) the anal opening, through the common integument on each side, and two small pin-sutures, one above and one below the large suture, through the superior and inferior part of the abnormally-distended natural opening.

The diarrhœa continuing, defæcation took place easily, notwithstanding the presence of the three sutures. The inferior small suture was removed on the fifth day, the superior about the tenth day, and the large one about a fortnight after insertion; and at the present time, three weeks after the operation, no return of the prolapsus has taken place.

6. *A Sick Sow*.—This was a rather valuable animal, which had, within thirty-six hours of my being called, brought forth fifteen youngsters; the first *seven* were alive, but the next *three* were dead, and covered with dark-coloured blood, while the remaining *five* (like the first seven) were brought forth alive and well. The dozen were all alive and quite active during my visit, and ultimately all did well. The sow, however, was very sickly; could scarcely stand; the digestive and urinary systems both dormant; externally, cold all over; internally, temperature high, and no milk at teats. My diagnosis was Puerperal Fever, and prognosis favourable *if my untoward patient could be got well physicked and stimulated*.

Being informed that the sow would voluntarily take nothing but milk, but *that* to any extent, I resolved to administer a heavy dose of sulphur and linseed oil in a Scotch pint of good milk. This the sow at once greedily consumed, and about an hour after she got a quart of stout and a glass of whisky in a like quantity of milk. The latter dose was repeated in the morning, and again next night, after which the bowels responded pretty freely to the sulphur and oil. The milk returned to the teats, and my patient rapidly became convalescent.

When I first arrived at this case, an empiric was just about to give the poor brute thirty drops of croton oil, which would, no doubt, soon have settled all her trouble! I pitched the *Ol. croton tig.* into the fire, and treated as above.

7. *Abdominal Hysterotomy in a Cow*.—I was called early one morning to a cow which was said to be “bleeding to death.” On my arrival at the farm, I found a profuse discharge of arterial blood from both nostrils at every expiration, and from the appearance of the forestall, I judged that this escape of blood had been going on for a considerable time, so that the cow now appeared to be *in extremis*, and the slightest movement seemed to increase the flow of the vital fluid. It was evidently a severe case of Hæmoptysis, and my prognosis was anything but favourable.

This cow was not only pregnant, but actually “past her time of calving,” and the foetus seemed to be continually on the move, kicking about in every direction; and, as the idea of checking the flow of blood seemed to be out of the question, it

struck me that, as the cow was in good condition, the best way was to *save the calf*, and utilise the cow's carcase. I therefore lost no time in procuring the services of a good butcher, and having thrown and secured the cow, her abdomen was cut open in the mesian line, the uterus and contents instantly extracted at the artificial opening, and the foetus (relieved of all its "envelopes"), was found to be quite lively, and ultimately did well. The carcase of the cow was immediately dressed, and made very fair butcher's meat.

The owner was not only delighted at this novel way of delivery, but also at receiving almost full value for his cow.

The only other remark necessary in this case is as to the active movements of the *foetus in utero* immediately prior to its abnormal extraction. I have always observed that, when the maternal life is ebbing fast, the living, undelivered foetus becomes exceedingly frisky, and kicks about in all directions, and I have often thought that this was owing to the withdrawal of the life-carrying current from the parent system, because in all cases where life is taken by the forcible extraction of blood, these kicking movements always occur.

8. *Abdominal Hysterotomy in a Cow*.—This, although a similar, was a far more interesting case than that above related, and occurred a few days ago in a pure-pedigreed four-year-old cow.

About six weeks since I was consulted in reference to this patient, as she was always vomiting her food, and getting enormously distended about the rumen, and would or could neither eat nor chew her cud. On examination of the cow, I considered it necessary to introduce the common œsophageal probang, and in doing so discovered that an obstruction of some sort existed about the abdominal end of the œsophagus, or, as nearly as I could guess, about its diaphragmatic portion. I had to withdraw and reintroduce the probang several times before overcoming or getting past this obstruction, and between each attempt I administered a small quantity of Ol. lini., to lubricate the parts, and soften the foreign body, if any was present.

Before introducing the probang, I evacuated the over-distended rumen with a Gunn's horse trocar and canular; this lessened the danger of injury from the forcible introduction of the pro-

bang. I may mention that this cow had been both probanged and probed more than once before I saw her, but only with temporary benefit. I told the owner that it was not a case of common obstruction of the gullet, but that it was likely to be either a constriction (from disease) of the canal, or something abnormal (tumour or otherwise), which occasionally rolled on to or pressed upon the gullet at or near the diaphragm. Prognosis was consequently doubtful. I ordered emollients and antiseptics, and the occasional passing down a sponge soaked in the same.

The chief point in this case, however, was that the cow was within six weeks of her "time of calving," and the owner was most anxious to carry her on till that auspicious event took place, as she was an animal of pure and fashionable breed. To make a long story short, after a great many probings, and ropings, and spongings, and unlimited quantities of stout, and all kinds of gruel, her "time" arrived on the 6th of March current, and on the evening of the 8th she became very uneasy, and had slight *pains*; so I was called on the 9th, and found my patient as stated.

I explored *per vagina*, but found the os uteri very little relaxed, scarcely admitting one finger; so I had recourse to stimulants and hypodermic injections of *Liquor ergotæ ammoniatus*. These were continued throughout the day, but although this excellent preparation of ergot brought on very severe pains, the os uteri remained obdurate, and scarcely relaxed to any perceptible degree. Fearing collapse of my patient (she had not tasted anything solid for more than a week, and was continually vomiting fluids such as gruel, etc.), I resolved, after discovery *per rectum* that the foetus was alive, to accomplish delivery by abdominal hysterotomy.

Having procured the assistance of a butcher, I followed the same routine as in the foregoing case, and safely secured a living calf, which, I am glad to say, is at present quite lively, and being suckled by another cow which calved the same day, there being no less than five calvings at this farm in one day, four naturally, and one by abdominal hysterotomy!

Post-mortem examination revealed extensive tubercular deposits in the abdominal cavity. The tubercles varied in size

from a mustard-seed to a goose egg, and were found in all directions. The liver was most enormously enlarged—three times the natural size, and hundreds of tubercles, of all shapes and sizes, were observed on its surface, and in its parenchyma. Two large masses of hardened tubercular matter were attached to the œsophagus close to the stomachs, and in front of them there was a dilatation of the œsophageal wall *to one side*, about six inches long and three inches deep. This dilatation was hard packed with chewed food. My idea is that the pressure of the two tubercular masses on the œsophagus caused the primary obstruction, and that the probang, in being too forcibly used, had partially ruptured the œsophageal wall in front of this obstruction, which partial rupture must have been the beginning or origin of the abnormal pouch, which was found on the *post-mortem* examination.

There is one thing in regard to these cases in which we wish merely to save the life of a valuable foetus by abdominal hysterotomy, and that is, we ought never either to stun the mother by a blow, or administer a heavy dose of “*Injectio Morphiæ Hypodermica*,” as by either of these we run the almost certain risk of the foetus dying during extraction, or immediately thereafter.

INFLUENZA.*

BY E. COURTENAY, JUN., ONTARIO VETERINARY COLLEGE.

FOR many centuries veterinary and other authors have noted the occurrence, at various periods, of an epizoötic affection attacking almost every species of animals, birds, and even man himself. This disorder, as noticed by these writers, was marked by certain well-defined general symptoms, which admitted of its being easily distinguished from other diseases, and being assigned a place for itself. The disease has received a multitude of names, some referring to the supposed pathology of the disorder, and some to the symptoms as noticed by the observer. Among the various names applied are the following—Distemper, Epidemic

* Read before the Veterinary Society, Toronto, on February 22nd.

Catarrh, Catarrhal Fever, etc. In France it is named "*Courbature*," "*La Grippe*," etc. In most countries it bears the appellation of "Influenza," a name given it by the old Italian writers in the seventeenth century, and which referred to some supposed stellar influence as regarded the production or origin of the disease.

Influenza has a history which extends far back into the days of the ancients. Hippocrates, a Greek physician, who lived about four hundred years before Christ, and who has been styled the "father of medicine," mentions the disease as attacking the human race ; and it is fair to presume that it also affected the lower animals at that period. It is mentioned as having occurred in Seville in the year 1299, raging with great fatality, and causing the death of more than a thousand horses ; in 1648 it attacked the horses of the French army in Germany. Forty years later, it prevailed over the whole of Europe, attacking both men and horses ; and in 1699 this continent was visited by the scourge for the first time, since which time its recurrence has been noted at varying periods, and in different degrees of intensity, as well as in different forms.

Gibson, an old English author of repute, in a work published in 1750, describes a disease which he denominates a pestilential disease or "Epidemic Distemper," which frequently prevailed to a great extent in England, entailing great loss, and even ruin in some cases to the farmers. This disease, from the symptoms presented, must have been Influenza. It was noticed in London during the autumn months of 1732, and made its appearance in several other parts of the kingdom about the same time. It commenced in some places in the country near London in September, entering the city during the following month, and progressing so swiftly that in a week there was scarcely a stable to be found in the whole city without the infection. Its duration was from two weeks to a month. During the spring of 1734 it again visited England, presenting the same general symptoms as the epizootic of two years before, but in addition showing symptoms of derangement of the urinary apparatus, and inflammation of the lungs as complications, and this form was, of course, attended with greater fatality than that of 1732.

The disease is very erratic in its movements, proceeding from north to south, and from east to west, as well as in the opposite directions ; but there seems to be a tendency to proceed from the east to the west more than in any other direction.

In the epizootic form it is remarkable for its extensive and rapid diffusion, extending within a brief period over different and widely-separated expanses of territory. In its course it bears a strong resemblance to the march of that terrible scourge of the human race, Epidemic Cholera. It quickly spreads from one locality to another, and even from one country to other countries far distant, neither rivers nor oceans appearing to interfere in the slightest degree with its progress.

During its prevalence it attacks vast numbers of horses of all ages and both sexes, entailing incalculable loss to owners of stock, and causing great annoyance and serious detriment to commercial interests in every branch, as it not unfrequently happens that seventy-five per cent. or more of the horses of an infected locality are prostrated, and, as a consequence, business is seriously interfered with, and in some cases almost wholly suspended. Particularly well was this exemplified during the epizootic of 1872, during which it was almost an impossibility to procure horses for even the lightest description of work. Very little hauling was done, and that little was accomplished with the aid of oxen ; and while it was no uncommon sight to see an ox doing duty between the shafts of a dray, or a couple of oxen drawing a waggon, it was very rare indeed that a horse was seen working, even on the streets of some of our largest cities.

Some animals appear to be much less susceptible to the morbid influence than others, and some seem to be altogether insusceptible ; though such cases are extremely rare, and we have absolutely no means by which we can account for this discrepancy. Generally speaking, all breeds are equally liable to an attack, but on close observation I think it will be found that the coarse, heavy breeds of horses, as well as suffering more when attacked, are slightly more susceptible to the influence of this disease—as indeed they are to most other diseases—than the lighter and more finely-bred horses, and young horses are noticed to be more prone to an attack than older horses.

Horses of a medium age, from seven to ten years old, enjoy a greater immunity from this affection than the young or very old, and especially so if they are vigorous, of strong constitutions, receive a proper amount of exercise, are properly fed, etc. The reason why this should be so is apparent, as such animals are in perfect health and vigour, are fully developed, and, in a word, are in the prime of life, and consequently offer a much greater resistance to the introduction of the morbid influence into the system, than would be offered by a badly-developed, weakly, or aged animal, or an animal in an unthrifty state from any cause whatever. A debilitated or abnormal condition of any one or more organs of the animal economy especially invite, or predispose to, an attack of Influenza; and according to the parts affected do we have various symptoms presented.

Influenza is not now attended with as great fatality as it was some years ago, and in the absence of complications cannot be considered as a very fatal disease, the fatality being limited chiefly to old and worn-out animals, and those of feeble constitutions. The disease, in its simple form, is generally of a mild character, but it frequently leads to the development of other and more severe affections, and in this way often proves fatal. It has been observed that when Influenza prevails other disorders are, as a rule, unusually severe, and the percentage of mortality from all diseases is greater than usual. For instance, it may be readily understood that were Influenza to prevail to any great extent in a locality already tainted with any low form of disease, that the death-rate would be enormously increased. A proof of this, I think, is the fact that Influenza was considered to be a very fatal disease some years ago, when proper drainage and other sanitary measures were not attended to, as they are at the present time, but the above is only one of several reasons why the disease is not now considered to be of as formidable a nature as formerly. Among these reasons may be mentioned the following:—

First, sanitary improvements. Second, that the disease now-a-days very rarely, if ever, assumes the malignant type which characterised it in former years, but has changed its nature, in consequence of the various modes of treatment that have been

practised. Third, the profession of to-day better understand the treatment of disease in its various forms, than did the older practitioners of fifty or a hundred years ago, simply from the fact that we have profited by their experience, and at the same time have been making rapid advancement in the acquisition of knowledge pertaining to disease, and the treatment thereof, for, comparatively unknown as it may be, it is nevertheless an undeniable fact that during the last few years the veterinary profession has made very rapid and upward progress, and so significant is the advancement made, both as regards scientific and national importance, that its parallel cannot be shown, even in the annals of the sister profession.

Its antiquity ; the ever-varying phases in which it has manifested itself ; its intractability to treatment, showing a most obstinate persistence in running a certain course ; its tendency to complications, etc., all combine to render Influenza one of the most remarkable as well as interesting diseases with which we have to deal, its peculiarities meriting much greater notice than has been accorded to the disease. Still, this subject has received a great deal of attention from veterinarians, and others who have made the diseases of the brute creation a special study from the earliest ages up to the present day, and while they have succeeded from time to time in making many valuable discoveries as to its nature, and effecting numerous reforms regarding the treatment of the disease, they have as yet been wholly unsuccessful in their endeavours to elucidate and clear away the cloud of mystery involving its origin. Many ingenious theories have been advanced from time to time in the efforts to locate the primary cause of the disease with a degree of certainty that would place its origin beyond the question of a reasonable doubt ; but it is needless to say that these efforts have been in every instance unavailing, for as soon as one authority advanced a theory apparently accounting for its development, he would be answered by an equally eminent authority, who would direct his efforts to controverting and denying *in toto* the conclusions reached, and who would adduce powerful arguments in support of his denial, and then having accomplished his purpose would proceed to form a theory of his own to give to the world,

which would, in its turn, be obliged to pass through the scathing fire of criticism, and, unable to stand the ordeal, emerge, henceforth to be regarded as a fallacy. The most eminent authorities on both human and veterinary diseases, through all ages and in all parts of the world, have disagreed and been divided in their opinions on this subject ; what a hopeless task, then, would it be for me, with my limited experience, to attempt to lift the veil of obscurity, under which the origin of this disease is hidden, when the ablest investigators the world has ever seen, both in the past and present, have failed to do so. We know that Influenza, like every other disease, must have an origin, or it would not exist, but beyond this point all is conjecture. I will now proceed to direct your attention to a few of the theories held regarding the primary cause or origin of Influenza. It has been attributed to exhalations from the earth, but that this cannot be the cause is evident from the fact that it has frequently manifested itself in the midst of the ocean, where such exhalations would not be likely to reach.

Currents of electricity in the air have by some been supposed to exert some peculiar and occult influence by means of which Influenza could be originated, but as no such condition has ever been shown to exist in the air in connection with the disorder, this idea is, to say the least, a very vague and unsatisfactory one, with absolutely no argument to support it, and, therefore, is unworthy of notice and needs no refutation.

It has also been supposed to arise from an excess of ozone in the air, and while ozone will cause considerable irritation to the Schneiderian and other mucous membranes which are more directly exposed to the action of the air, still, common-sense teaches us that it could not set up the great constitutional disturbance by which Influenza is characterised.

Some say that it is nothing more than common cold, beginning as colds ordinarily do, and proceeding to that high degree of catarrhal inflammation known as Influenza ; that this is not true is shown by the fact that simple catarrh can be cut short almost at will, while Influenza persists in running a definite course in spite of every mode of treatment that can be brought to bear ; and any attempt to cut it short is fraught with great danger to

the life of the patient. Still, others, wishing to be more conservative, have included all of the above theories, and taken the broader stand that the disorder is primarily caused by atmospheric influences; and remarkable atmospheric changes and variations of temperature have been recorded by various writers during epidemics of Influenza, who have thus endeavoured to account for the presence of the disease; but while these conditions may and very likely do bring about a predisposition to the malady, the stand taken that they are the actual causes of Influenza is not to my mind a tenable one, for many outbreaks have occurred without anything remarkable being observed, so far as temperature and atmospheric changes were concerned; again, most extraordinary changes of weather and temperature have frequently been observed without a solitary case of Influenza occurring as a consequence.

Those minute organisms known as animalculæ have come in for their share of consideration, being firmly believed by many to be the cause of this as of some other diseases; this is a very interesting theory, and one well worthy of consideration, and by it certain of the symptoms can be accounted for which hitherto could not be explained. Some observers consider the disease to be due to microscopic vegetable organisms, or Cryptogama; this is the opinion entertained by Mr. Moorhouse, of New York, who, on examination of the discharge from the nostrils, found three distinct species of vegetable organisms, all of them in a vigorous state of development. According to the *Veterinarian*, the observations of Mr. Moorhouse do not accord with those of Professor James Law, who subjected the particles floating in the air from stables and fields to microscopic examination, both before and during the prevalence of the epizootic of 1872, without discovering any important difference in the floating particles from first to last.

This brings us to the much-mooted question of contagion and infection. Most writers use these terms indiscriminately, making no distinction whatever between them; still, I consider them as two different words, each with a different meaning to the other. For instance, a contagious disease may be defined as follows:—A morbid condition of the animal economy induced by the opera-

tion of a specific poison, termed a virus or contagium, which, on being conveyed by actual contact into the system of a healthy animal, induces a condition identical with that of the body from which it originated.

An infectious disease is one which has the power of spreading itself by diffusion of the specific material through the air.

I am well aware that many eminent authorities do not believe Influenza to be either contagious or infectious, and I cannot help experiencing a feeling of great diffidence on expressing views antagonistic to the views held by those learned men ; yet were I to do otherwise I would not do justice to myself, and consequently I must array myself on the side of those who believe that Influenza, under certain circumstances, is contagious as well as infectious, and will now endeavour to give a few reasons for so thinking, or rather for disputing the assertion made by some, that it is a non-contagious disease.

We are told that it has attacked crews of ships in the midst of the ocean, and, therefore, cannot be contagious ; but might not the germs of the disease have been lurking in their systems from the time they left the port, only to become developed and produce the disease while on the voyage ? This is reasonable, and, I think, does away with one argument in favour of the non-contagious character of Influenza.

Mr. Greene, M.R.C.V.S., St. John's, N.B., records the following, which Professor Williams designates as "an important fact." Mr. Greene says :—" I was always under the impression that Influenza was both contagious and infectious till the late outbreak ; since then I have altered my views with regard to the contagion and infection of that disease. One among several facts which I could mention will bear me out in this question. During the month of July, 1872, a horse had been put to grass on Partridge Island in the Bay of Fundy. This island is distant from this city three miles. No other horse had been near the island from the date of his landing up to the time of the outbreak in St. John's, N.B., and on the 15th or 16th of October, which was only two or three days after the first case was reported in this city, the horse on the island was affected with the most violent form of the epizootic." (See Williams's "Med.," page 329.) Now, with

all due deference to Professor Williams, I do not consider the above to be an "important fact," neither do I consider the observation of Mr. Greene to be fraught with importance of the slightest magnitude, so far as proving the disease to be non-contagious or non-infectious is concerned. On the contrary, I consider that if it proves anything that it will be found to be evidence rather in favour of, than against the, contagious and infectious theories; for although no other horse had been near the island from the date of the arrival of the horse in question, still the infection would be able to reach the island in many ways. Might not it have been conveyed to the island by birds? or by the owner or attendant of the animal, whom it is to be presumed would visit the animal occasionally? or may not the poison have been present in the animal's system even before being taken to the island? Again, horses and cattle are very frequently pastured together; there may have been a number of cattle, sheep, or other animals on this island, that were removed there from an infected district; the horse may have acquired the disease from them. Yet even supposing that none of the above causes operated to convey the disease to the horse—supposing that no other animals were pastured there, that no man, bird, or other living thing visited the island during all this time, and that the horse was free from taint of any disease at the time of leaving St. John's—I say even supposing all the above to be the case, is the fact that the animal contracted the disease under these apparently unfavourable circumstances for its development, sufficient evidence to cause any man who cares to look beneath the surface to change his belief, for disbelief, in the contagion and infection of Influenza? I think not; for microscopic particles of the contagious principle or virus might yet find their way to the island through the media of the air, and being taken into the air-passages of the horse, in due course produce their peculiar effects. The *Veterinarian* puts the question, "Would not the morbid matter have become diluted to such an extent (after travelling three miles) as to be inert? To this I would answer, that undoubtedly contagion existing in certain forms, as a gas for instance, would become dissipated, and rendered inert by the action of the air; but it has not as yet been decided in what form the conta-

gium exists, and if it is a living organism, as many suppose it to be, it would have to pass through a definite course of existence, however brief that might be, and exposure to the atmosphere at any ordinary temperature would not be at all likely to affect its virulence, even in the slightest degree, and if it is small granular masses of organic matter, as it is now asserted to be, I most certainly cannot see any reason why such particles, being of microscopic proportions, may not be taken up and carried by the air a much greater distance than would be necessary to reach the horse in question from St. John's, and that, too, without undergoing any destructive process, such as would interfere with its activity. Professor Williams, after alluding to contagion and infection as embodied in the theory of Beale, says, "This hypothesis is strongly corroborated by the fact that Influenza is sometimes conveyed to a healthy locality by horses affected by, or recovering from it." Williams continues, "It is, however, negatived by its being incapable of propagation by inoculation from one horse to another; or by transfusion of blood from a diseased to a healthy horse, by its undoubted spontaneous appearance in localities in which contagion is entirely out of the question; and by its occasional occurrence when Influenza prevails in man, dogs, cats, and even birds."

Now, it must be admitted that the disease has not (at least to my knowledge) been produced by direct inoculation, and most writers deny that it can be so produced, but none of them tell us how they conducted their experiments, and I think very few experiments in this direction have been made; but I presume that the virus has been introduced into the areolar tissue under the skin. This may not be the proper way to inoculate to produce the disease; it is possible that some one or more of the fluids, etc., with which the virus would thus come into contact may exert a chemical effect upon it, and thus destroy its powers of propagation; or it may be that it is necessary for the virus to come into contact with some of the secretions of the Schneiderian membrane, combining with those secretions chemically or otherwise, before it is enabled to propagate the disease. This problem is, I think, one well worthy of earnest consideration, the more so as it is one that can be easily solved by putting the

matter to a practical test on the next appearance of Influenza in the epizootic form. Again, even though it is communicable by means of inoculation into the connective tissue, it might miss fifty times, and yet this would not be proof sufficient to show that it could not be thus communicated. In illustration of this, I will mention the fact, that in the Veterinary School at Alfort, they repeatedly caused a dog to be bitten by rabid animals (over seventy times, I think), yet the animal bitten escaped the malady. It is also recorded, that in the case of an ass that was inoculated with the virus of Glanders, at various periods extending over a year, and confined with glandered horses during the whole time, that he failed to contract the disease. Yet, who among us has the hardihood to assert that Glanders and Rabies are non-contagious diseases? It is a well-known fact that the virus taken from the fangs of some of the most deadly serpents can be taken into the stomach with impunity, where it is neutralised, while the smallest quantity introduced into the blood will give rise to the most violent symptoms. Now, if there exists in the gastric secretions some principle by which this poison is neutralised, why may there not similarly exist in the blood a principle to render inert the virus of Influenza?

It is beyond dispute that Tuberculosis has been produced time and again by inoculation; yet how often has inoculation in this case been followed by negative results! and the same may be said of almost every other contagious disease. As to the fact mentioned by Williams, that transfusion of blood from a diseased to a healthy animal failed to produce Influenza, I must confess my inability to understand what such an experiment proves, and have no great hesitation in asserting that it proves absolutely nothing. In support of my assertion I will cite the following experiment performed by M. Paul Bert, a well-known French scientist. He caused the entire blood of a dog in a state of furious Rabies to be transfused into a healthy animal, and found that the latter, kept under observation for a year, manifested no symptoms of the disease. And as to the spontaneous appearance of Influenza in localities where contagion was out of the question, I would merely state that such reasoning appears to me to be the veriest sophistry, for it is well known that Glanders in the horse

and Rabies in the dog sometimes occur spontaneously also, and that in localities where contagion is out of the question, yet no one doubts the existence of a contagious principle in either of these diseases. I think that I have conclusively shown, and that you will agree with me, that the occasional spontaneous occurrence of Influenza is not to be taken as a proof that the disease is of a non-contagious character.

(To be continued.)

CATTLE DISEASE IN THE MADRAS PRESIDENCY.

BY J. MILLS, M.R.C.V.S., ARMY VETERINARY DEPARTMENT,
INSPECTOR OF CATTLE DISEASES, MADRAS.

IN the year 1865, Government thought it desirable to appoint a veterinary surgeon to investigate an extensive outbreak of cattle disease which occurred in the Nilgiri district, and to inquire into the nature of it on the spot, and also to ascertain a suitable mode of dealing with it. The officer appointed, the late Mr. Thacker, looked upon the malady as Pleuro-pneumonia of the most virulent type ; so much so, that, on the average, not more than two per cent. of those attacked recovered ; and by which visitation it was said that large cattle-owners among the Todas and Badaghars (natives of the hills) were reduced from comparative wealth to absolute poverty. But, subsequently, Mr. Thacker came to the conclusion that his former diagnosis was wrong, and he looked upon this outbreak to be true Rinderpest, in which opinion, after a service of two years as Inspector of Cattle Diseases, I am inclined to concur, as this malady is of somewhat frequent occurrence there. From this date, and from the good service he rendered to the Civil Government, it was considered absolutely necessary that a veterinary surgeon should be transferred from the Military Department for the purpose of investigating future outbreaks of disease. This arduous duty Mr. Thacker undertook single-handed, and without the slightest assistance whatever, which was, we need hardly add, work for many.

From the records before us, it would seem that Mr. Thacker

continued steadily at this duty until the end of 1871, and during that interval he seems to have done an enormous amount of good in every part of the Presidency ; so much so, that on his relinquishing the appointment, he, we have heard it stated, was of opinion that the future services of an officer as Inspector of Cattle Diseases were unnecessary, as he said "that the natives of the Presidency had such a firm belief in his mode of prevention, and the drugs he used, that Government could do without one."

Two years later (1873), however, a severe outbreak of Murrain, in the Chingleput district, compelled Government to seek again the aid of a professional man, and Veterinary-Surgeon Pritchard, of His Excellency the Governor's Body-guard, was detailed for this purpose. He seems to have worked on somewhat the same lines as his predecessor, but did not evidently place much faith in Thacker's medicines ; for he reports, on a subsequent outbreak, that out of 1,460, the total number of cattle in the four villages of the Cuddapah district, 260 were attacked, 122 died, and thirty recovered ; the remaining 108 were reported to be still sick. In the village in which it first broke out 101 cattle died. This outbreak was said to be Epizootic Aphtha, but from the high mortality, we surmise that it must have been Rinderpest. In 1875 Mr. Western was appointed Inspector of Cattle Diseases, but in 1876 was ordered to revert to the Body-guard from the Revenue Department, under which he had been employed.

From this time up to 1882, nothing was done, with the exception of an occasional employment, when required, of a veterinary surgeon, until the appointment was made a permanent one in the month of August of that year, and from that time I commenced to form the Cattle Disease Prevention Department, as sanctioned in G.O. No. 1917, 12th December, 1881. When complete it will consist of the following officers :—

Inspector of Cattle Diseases	...	...	...	...	...	1
Deputy-Inspector of "	...	...	...	...	...	1
Local Cattle Disease Inspectors	...	...	...	...	...	27
						—
Total						29

The Department at the present time contains one inspector,

one deputy-inspector, and six local, and nine probationary local inspectors. The deputy-inspector is an ex-farrier-major of a Madras cavalry regiment, and was appointed on account of his knowledge of the natives and their language. He also acts as assistant to the inspector. His duties are to *continually itinerate*, to superintend the work of the local inspectors, and, when not on tour, to render practical instruction at the hospital.

The local inspectors are specially-selected graduates of the Agricultural College. These men undergo a training there of three years, after which they are appointed as probationers in the Department, and in this capacity have to serve a further term of twelve months, during which time they are under my immediate tuition, or under the surveillance of the deputy-inspector. Every month they have to pass a severe examination, both practical and theoretical, on the subjects which have been taught them.

(a) For this examination the total number of marks will be 100, viz., theoretical 50, and practical 50.

(b) At the termination of the twelve months' course, a final examination will be held, and those students who fail to qualify will be put back without promotion on the following scale. Those who pass will be promoted :—

60 per cent. and over	...	...	Promotion to the grade of Local Cattle Disease Inspector.
50 per cent., and under 60 per cent.			Put back for instruction for one month.
40 per cent., and under 50 per cent.			Put back for instruction for two months.
Under 40 per cent.	...	...	Put back for instruction for three months.

(c) Unsuccessful students will be told in what subjects they failed, with the view to their giving special attention to them during the interim they are so put back.

(d) Students who have so failed will be examined monthly, and if they do not reach the standard of 60 per cent. within three months, which will be the maximum time allowed to qualify in, their case will be referred to the Director of Agriculture for his consideration as to whether it is desirable to retain such candidates longer.

Working.

When I assumed charge of the Department, the deputy-inspector was my only subordinate, with nine probationers, who practically knew little or nothing. At this time, cattle disease in its various forms had been rife all over the Presidency for a considerable period, and from the serious losses which were taking place, the Revenue Department were determined to give this subject their fullest consideration. With the resources at my command, little, of course, could be expected of me for a time; and some idea may be formed of the work before me, when in one district alone, viz., Kistna, no less than over 21,000 attacks of Rinderpest were reported.

As I before mentioned, the deputy-inspector continually itinerates, and is ordered by telegram to proceed whenever a severe and fresh outbreak of disease takes place, and, when necessary, probationers are sent to assist him. Here the latter have every opportunity of making themselves thoroughly conversant with cattle diseases. When the mortality is excessive, the Madras Act No. II. of 1866 is brought into force, and the medicines required are sent out, made up in convenient doses, from the hospital, which is also a medical depôt.

The most severe maladies with which we have to deal are Rinderpest, Anthrax, Variola Ovina, and Epizootic Aphtha, for particulars of which see Appendix I.

The treatment of all these diseases is attended with many difficulties, because the native, naturally, from caste and other prejudices, is exceedingly adverse to interference on our part, and would rather see his cattle die, and attribute it to the immortal "*Kismut*," than pursue a rational and scientific method of cure. To show how biassed they are, they will actually hide their animals in their own dwellings, where they live with them for days, while diseased, until the patient succumbs. Another wily trick they adopt is, to hide their cattle in pools or tanks, leaving nothing but their noses above water; and when reasoned with on these quaint proceedings, they reply, "Who am I that I should be different to my forefathers, who looked upon this as the proper treatment?"

Our mode of working is as follows:—Every district, twenty-

two in number, is supplied from the depôt with 100 doses of medicine, placed in tins hermetically sealed, for all the most prevalent diseases ; also a quantity of the most useful disinfectants. This supply is permanently kept up. When an outbreak takes place, it is at once reported to this office by the nearest revenue official, giving in every case, when possible, full particulars. Medicine is sent to the affected villages from the headquarters of the Collectorate, and an inspector is dispatched immediately to deal with the disease. If the outbreak is of a severe type, Madras Act II. of 1866 is brought into force, and the inspector has to keep me fully informed of every detail. It will be observed that the Madras Cattle Disease Prevention Act gives us the power to order the destruction of animals suffering from contagious diseases ; but from the fact that no compensation is allowed, and that caste prejudices have to be considered, it has been found impossible to enforce this rule : consequently we are often called upon to treat cases which we know are incurable, and for the welfare of the people should most certainly be destroyed. Hospital pounds are erected in convenient places near the affected villages, and placed under the charge of a "Pound-keeper," who receives and attends all sick animals sent there for treatment. These pounds are kept well supplied with medicines, and every sanitary precaution is taken to prevent disease being conveyed from them. The attendants are not allowed to visit the villages in the vicinity ; stray animals of every kind are rigidly prohibited from coming near to or entering the pound. The carcasses are buried in pits six feet deep, and covered with unslaked lime ; but this mode of disposal of the dead is most objectionable. I am, however, glad to say that I have induced Government to alter the law on this point, and orders are about to be issued in which cremation is to become compulsory. This I look upon as decidedly a step in the right direction, as it must save the country from contamination, for we know that unless the burial of the carcasses is carried out under strict and responsible supervision, it is sure to be done badly, or not at all. Cremation will also do away to a great extent with cattle-poisoning ; for the "Chumars" and "Chucklers," who are the people who practise this

profession, more especially during outbreaks, will now be deprived of the much-coveted flesh and hide. Animals which recover, before being allowed to return to the herd, are thoroughly disinfected. Since outbreaks have been treated in this manner, it is a pleasing duty to record that the mortality has decreased, and that their duration is considerably lessened.

Statistics.

I only compiled the statistics for the seven months in which I was in charge of the Department during the last official year, but they will be sufficient to convince us of the utility of a Cattle Disease Prevention Department. The district most severely visited during that time by Cattle-Plague was Kistna, where no less than 21,486 attacks were reported, or 2·82 per cent. on the total of its cattle, 60·65 of which died. Now, if we look at the statistical return (Appendix No. 3), it will be observed that the deaths in cattle stand at 19,590, and sheep at 840. These figures represent only the cases reported to this office, but I am confident many deaths occur which we never hear anything of. At the same time, it may not be without some interest to calculate the loss in money which has taken place within the period that these statistics embrace. If we take the cattle all round at an average, say, of Rs. 10 per head, and the sheep at Rs. 1, the net loss in money has been Rs. 196,740, which is a very serious matter. Kistna alone suffered to the extent of Rs. 130,390. In Trichinopoly district, Variola Ovina for a time was somewhat severe, but its progress was promptly checked—not, however, until 60 per cent. of those attacked had died.

(To be continued.)

ARTIFICIAL IMPREGNATION.

BY "A DOG BREEDER."

A BITCH came into my possession some months ago, and as she was a valuable prize animal, I was exceedingly anxious to get a litter of pups from her, my dog (the male) being the last of a particular strain. But, owing to an injury in a former *coitus*, I found that copulation between them was impossible; I there-

fore, knowing that artificial impregnation was attended with successful results in the case of plants, determined to attempt it in this case.

Having therefore, without difficulty, collected a sufficient quantity of semen from the male, which I kept vivified during the ten minutes that it took to collect it, in a cup floated in a bowl of hot water, about the same temperature as the male itself, I syringed the uterus of the bitch by means of an ear syringe, on to which I had fastened a catheter. Gestation was the result, and until a week before her time was due to the first impregnation (there were three), all went well.

At this period the vulva commenced to swell to an abnormal size, and I naturally thought that parturition was nigh; but such was not the case. Instead of increasing in size, the bitch began to decrease. There were no other signs of approaching labour—no pains, no presentation, nor any appearance of uterine dropsy.

Ten days later, or three days after she was due to pup to the third impregnation, I noticed considerable restlessness in the bitch, and a desire to make a nest. Weak pains then came on, and it was only after a thirty-six hours' labour, and slight doses of ergot, that dead pups were got away from her.

The veterinary surgeon who attended her stated that the pups had been dead a fortnight or so, or that their death *in utero* was synchronous with the enlargement of the vulva.

I may state that before, and for a considerable period during pregnancy, the bitch suffered from severe Canker of the ear, intestinal worms, and a form of Eczema.

She had not much exercise, and I am afraid was too well fed.

Now I would ask, through the columns of the VETERINARY JOURNAL, 1st, Whether artificial impregnation has previously been attempted and found successful in the bitch?

2nd, Whether, if successful, it is liable, through any alteration of temperature which the semen may undergo during the process of collection, to produce weakly pups *in utero*?

3rd, Whether it might be considered that the cause of death was due to the condition of the bitch's health, or was influenced

by the artificial process which caused the pups to be called into existence ?

[Artificial fecundation was first practised by the Abbé Spallanzani, who, in 1780, successfully operated on a bitch ; in sixty-two days the animal brought forth three puppies—two males and a female—all of which resembled the male parent. Not long after this, acting on the advice of the celebrated John Hunter, a man affected with Hypospadiasis impregnated his wife artificially. Since that time it has been often successfully resorted to for impregnation of the human female, and especially by Giraud, Marion Sims, Courtoy, Pajot, and others. We are not aware that it has been attempted to any extent in animals, though there is no reason why it should not at least be partially successful, if proper precautions are adopted. The offspring need not be weakly if the semen has fallen slightly in temperature, as the spermatozoa retain their activity for some time at a lower temperature than that of the body. In the interesting case described by our correspondent, the death of the two puppies was probably due to the condition of the bitch.]

INVESTIGATIONS AND OBSERVATIONS ON ANTHRAX AND OTHER DISEASES, MADE IN MARCH AND APRIL, 1883, IN THE DISTRICT OF SIALKOTE, PUNJAB, INDIA.

BY OFFICIATING INSPECTING VETERINARY SURGEON (2ND CIRCLE, BENGAL) RICHARD POYSER, F.R.C.V.S., A.V.D.

(Continued from page 18.3)

On the 30th March, 1883, the mare and pony were picketed on the sunken surfaces of two graves in which two virulent cases of equine Anthrax had been buried on the 5th April, 1882. They were not moved from these sites, were watered from buckets, and received no grain, but were fed only on the grass which grew on and around the very graves upon which they stood, and upon a most luxuriant crop of green wheat and barley (just in ear and freshly plucked up by the roots thrice daily) which had grown over and around the graves of five other Anthrax interments

which died, virulently affected, in May, 1881. They were also fed upon the grass and cereal crop growing on and about many other known anthracoid graves.

Whilst feeding, these animals were continually sniffing the grave-dust and ingesting it and the soil attached to the cereal roots from the other graves. After a week a foot of the surface soil of their standings was dug out and scattered about them. After two weeks the tops of their grave-standings were watered; no more crop being available, the experiment closed on the 18th April, 1883, after twenty days' duration.

The temperature of each animal was carefully taken and registered morning and evening; but as there was hardly any variation from the normal standard, the readings need not here be quoted.

Not the slightest deviation from health presented itself, except a trifling Diarrhœa in the pony, caused by the fresh green crop on an impoverished system, when the temperature fell to 97°; and this arose, of course, from the rectum being cooled by the external air.

The experiment, therefore, was a failure in so far as neither subjects became affected with Anthrax.

Notes.—1. Brigadier-General G. H. Murray forwarded this report (minus the experiment report, which was not ready), with a map on which all villages visited were shown, considering it of "so exhaustive and valuable a nature as to deserve being printed for general information and for submission to Government."

2. Lieutenant-General Sir M. Biddulph, K.C.B., remarks:—"Veterinary Surgeon Poyser has made a thorough and very laborious examination of the villages indicated, and the report he provides is very complete, going as far as it is possible, in the present state of our experience, into this mysterious question.

"The abstract B shows the number of animals which have died between 1st April, 1882, and 31st March, 1883, in 166 villages surrounding Sialkote, and also that 193 have died of Anthrax. It is, however, only on the report of natives that this estimate is based.

"No further light has been thrown on the *origin* of this strange disorder."

After quoting the portion of report marked, Sir Michael Biddulph observes :—"It is worth while, however, to obtain as many facts as possible ; and although Veterinary Surgeon Poyser has written so much, I should wish him to pursue the subject a little further," and submitted the following questions, to which I replied, *vide* parentheses :—

1. Have the villages* where Anthrax carcasses have been buried suffered more than other villages further from the zone so affected ?

(Not so much as evidenced by the map, wherein the position and number of Anthrax cases are indicated by parallel lines and Roman numerals in black ink.)

2. Have the horses and stalled or other cattle of the city and bazaar suffered losses by Anthrax, and where is their food procured from ?

(Doubtless, but so far as the city proper is concerned, the Commissioner of Sialkote has not yet afforded me the information solicited six weeks ago. Food is procured from the surrounding district.)

3. Do horses and cattle that graze in the farther off villages suffer equally with those near ?

(Yes ; and according to the details accumulated for the past year, more.)

4. Can it not be proved that cattle and horses have caught Anthrax whose source of food or grazing has been quite free from the contamination of Anthrax carcasses ?

(In the present state of our knowledge it could not be proved, because we cannot for certain declare that any particular source of food, or the food itself, is free from Anthrax contamination or not.)

Sir Michael continues :—"The replies to these queries as a further observation, and the result of the experiment" (herein recorded) "being tried of grazing horses on Anthrax graves, may afford experiences which will throw light on the subject.

"I shall recommend the report to be printed when the further required information is recorded."

* The question refers to the villages nearest the ground usually employed as a burial site for Sialkote troop horses dying of Anthrax.

A

ABSTRACT OF THE NUMBER OF ANIMALS PRESENT AT THE END OF MARCH, 1883, IN 166 VILLAGES SURROUNDING
SIALKOTE, INSPECTED BY VETERINARY SURGEON R. POYSER. CITY AND CANTONMENTS NOT INCLUDED.

Oxen.	Cows.	Buffaloes, male.	Buffaloes, female.	Cows, calves.	Buffaloes, calves.	Sheep.	Goats.	Horses (chiefly ponies).	Donkeys.	Mules.	Pigs.	Total.
9,181	7,194	6,383	3,350	4,175	2,249	3,229	3,389	539	674	18	18	40,399

DEATHS BETWEEN 1ST APRIL, 1882, AND 31ST MARCH, 1883.

461	194	267	419	116	163	43	37	18	11	1,729
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B

ABSTRACT OF DEATHS ENUMERATED BELOW WHICH OCCURRED BETWEEN 1ST APRIL, 1882, AND 31ST MARCH, 1883,
IN 166 VILLAGES.

April.	May.	June.	July.	August.	Sept.	October.	Nov.	Dec.	January.	Feb.	March.	Total.
23	49	42	166	150	250	146	145	187	305	210	56	1,729

TABULATION OF DISEASES FROM WHICH 1,729 ANIMALS DIED BETWEEN 1ST APRIL, 1882, AND 31ST MARCH, 1883,
IN 166 VILLAGES.

Total.	Existing Disease.	Unrecognisable Disease.	Other Accidents.	Falling into Wells.	Indigestion.	Broken Legs.	Snake-bite.	Age, Debility, Starvation, Neglect, Cruelty, Overwork.	Castration.	Abortion.	Parturition.	Rabies.	Scabies.	Hoven.	Foot-and-Mouth Disease.	Rinderpest.	Anthrax.
1,729	32	57	10	3	13	6	5	270	1	3	7	5	99	87	251	687	193

Editorial.

THE ARMY VETERINARY DEPARTMENT IN INDIA.

THE discussion raised in the House of Commons on March 7th, an abstract of which appears in our Parliamentary Intelligence, on the motion brought forward by Dr. Cameron, for the appointment of a Select Committee to inquire into the working of the Commissariat and Transport services of the British and Indian armies in the recent Egyptian campaigns, and to consider what changes, if any, are required to secure increased efficiency in these services, was of the greatest importance to our army, and not less to that important branch of it, the Veterinary Department. Dr. Cameron, in calling attention to the "cruelty, waste of money, and danger to British arms in recent campaigns, caused by the defective organisation of the Indian and British Transport and Commissariat services," did great service in exposing some of the grossest possible blunders in connection with the Afghan and Egyptian campaigns, through neglecting the services of veterinary surgeons. The tale was a most lamentable one, and the facts and figures brought forward with so much care and lucidity by the learned doctor, evidently startled the House, as they did the public on the following day. Indeed, the Under-Secretary of State for India was compelled to admit, with reference to the campaign in Afghanistan, that "the report of Sir M. Kennedy on the deficiency of transport was one of the most melancholy pieces of military reading ever published." This report, it may be added, only touched the fringe of the subject, and is mild when compared with some of the semi-official and private reports, which afford the most painful revelations it is possible to conceive with regard to the cruelty and losses that must inevitably attend campaigning, especially in such a country as Afghanistan, when it is attempted to dispense with the services of veterinary surgeons.

Allusion has frequently been made in this journal to the reprehensible, almost criminal neglect, which led to such disastrous results, and our comments have been no stronger than the circumstances warranted. But out of evil cometh good, and it is satisfactory that the Committee asked for is to be granted, but only with regard to the Egyptian campaign, in which the Army Veterinary Department did such excellent work and received universal praise. The Afghan campaign is not to come within the scope of inquiry, as Mr. Cross stated the Indian officials have taken the lesson to heart, and are adopting measures which, it is believed, will prevent a recurrence of such disgraceful and needless atrocities and losses. What these measures are likely to be, the Under-Secretary for India stated, and if they are carried out fully and effectively they will go a good way to attain their object. Veterinary schools for the training of native farriers, or "salootries," are established in the different presidencies, as these, it is expected, will be able to act as veterinary surgeons or assistants, both in the army and in civil life, thus relieving the army veterinary officers from heavy and exacting duties, which are imposed upon them in the suppression of contagious diseases.

Mr. Cross, however, and those who share his views, have evidently an exaggerated notion of the value of the native farriers. Up to a certain point, after much training, they are useful, and may be entrusted with functions which do not demand the special qualities and qualifications English veterinary surgeons possess. Beyond this they cannot go, unless past experience of them has been fallacious. Veterinary Surgeon Anderson, in his report on the Egyptian Campaign, alluding [to the existence of Glanders among the horses of the Bengal Cavalry, states that the chief salootrie of the regiment, one of the most intelligent of this class he had ever met, was riding a horse affected with well-marked Glanders, which he did not discover. This regiment, like the majority of native cavalry regiments, was entirely in the hands of native farriers, and had been infected with Glanders for several years, embarking for Egypt with the disease among its horses.

It is indeed astonishing, almost incredible, that such a state of affairs as Dr. Cameron disclosed could have existed in India; but the Indian Government, for some reason or other, has persistently ignored veterinary science in the army, as well as neglected the benefits it would have conferred on the agriculture of that immense country. Millions and millions of pounds sterling have been, and are now, lost annually from the sheer indifference or culpable ignorance of the Indian Government. There are no civilian veterinary surgeons to attend to the immense numbers of domestic animals required in that country, and the staff of army veterinary surgeons is too small, under-paid, and over-worked. Army service in India is distasteful to the last degree, through the unfeeling and very unsatisfactory treatment veterinary officers receive there; so that there is great difficulty in inducing them to serve under the Indian Government—indeed, service in India is compulsory, and looked upon as almost penal.

But there is now some prospect of a change for the better, both for India and veterinary officers, and we trust that before the present year expires a new system of carrying on civil and military veterinary service will be established there, which will not only greatly benefit India, and prevent the recurrence of such disasters as have shocked the public for some time and proved so ruinous to that country, but will also attract, through the Army Veterinary Department, the very best men who become graduates of the Royal College of Veterinary Surgeons.

It is now recognised by general officers commanding, that on a campaign, of all the departmental officers none are more useful than veterinary surgeons, and in our future wars there can be no doubt they will play a larger part than hitherto, the advantages derived from their services being so essential to success. It is earnestly to be hoped that this view will also prevail in India, and that the department there will not be under-estimated, nor kept to a starvation standard in point of numbers.

The Indian authorities have been terribly slow to learn, and the false economies they have been making have been productive of terrible havoc, and furnished us with some of the most harassing tales of animal suffering and animal loss we have ever read or heard of.

M. PASTEUR ON RABIES.

IN a communication read at the meeting of the Académie de Médecine, February 26, M. Pasteur gave an account of the results of the researches which he has been pursuing, concerning Rabies, since his former communication in 1882. They are based upon a large number of experiments made on various animals, by inoculating the surface of the brain with rabid virus, or by introducing this into the circulation. The following are the chief conclusions to be derived from these experiments. 1. The spinal cord becomes affected by the virus of Rabies before the medulla oblongata. 2. The virus has its seat not only in the encephalon and the spinal cord, but in the whole nervous system from the centre to the periphery, a fact which explains the nervous excitement manifested in so many instances, as well as the strange symptom, ærophobia, often exhibited in men. The virulence of the saliva and of the salivary glands has been demonstrated on dogs rendered rabid by intra-cranial or intra-venous inoculations, as well as in those attacked by so-called spontaneous Rabies. 3. The virus may be possessed, with all its virulence, in the encephalon and cord during several weeks, when putrefaction of the bodies is prevented by a low temperature. The virus also enclosed in hermetically sealed tubes may be preserved for three or four weeks at a summer temperature. 4. The virus of Rabies may exist in the cerebro-spinal fluid, but its presence there is not constant. 5. Although the brain in Rabies is distinguishable from the healthy brain by the greater number and delicacy of the molecular granulations, no microbe has as yet been detected. 6. We know, that usually when a bitten dog becomes mad, he becomes furious, with a propensity to bite, and a peculiar bark; but in these experiments, when the virus was passed into a vein or the subcutaneous tissue, the paralytic form of the disease was ordinarily produced without fury or barking, while when intra-cranial inoculation was resorted to, furious Rabies was the usual result. This latter form was only producible by intra-venous or hypodermic injection, when very small quantities of virus were employed. The smaller the amount of virus employed for these injections, the more easily was furious Rabies produced. On the other hand, the inoculations of small quantities of virus greatly prolonged the duration of the incubation; and if the dilution be pushed beyond a certain limit, which is not very high, the inoculation produces no effect. But while these small quantities do not induce Rabies, the animal is still susceptible to the infection in subsequent inoculations, that is, the first inoculation confers no immunity. 7. As had been already observed in the dog, so in the rabbit, there may be a remission of the early symptoms of Rabies, with a recurrence of the disease some time afterwards. This occurrence is, however, very rare both in the dog and the rabbit, while in the fowl it frequently takes place. 8. Numerous experiments have been made with regard to the alleged attenuation of the virus of Rabies by the action of cold; but the results have been entirely negative. 9. The certainty of inoculation by intra-venous injection of the virus, proves that the hypothesis of its passage from the periphery to the nerve centres by means of the nerves, cannot be regarded as its sole channel of propagation, and that in most cases its absorption takes place through the circulation. 10. The passage of the virus through different species of animals, permits of a more or less considerable modification of its virulence. Rabbits, guinea-pigs, fowls, monkeys, all take Rabies; and when, by successive inoculation, the virus attains a kind of fixity proper to each genus, the different viruses vary greatly in strength, and differ appreciably in this respect from the canine virus, the virulence of which has become fixed by its numerous passages from dog to dog, by means of bites, from time immemorial. M. Pasteur is no believer in spontaneous Rabies. At the present time we are in possession of a virus

which imparts Rabies to a rabbit in seven or eight days, with such constancy, that we are able to assign to within some hours, so to say, the duration of the incubation, measured by the change of temperature, or by the first manifestation of the symptoms. We also possess a virus which will give Rabies to the guinea-pig in five or six days, with not less constancy in the duration of the incubation. As the nearest approach to man, M. Pasteur is at present engaged in a series of experiments upon the passage of Rabies from monkey to monkey. II. In a former communication, M. Pasteur stated that he had some dogs in his laboratory which had proved insusceptible to all modes of inoculation; but at that time he was unable to state whether they were naturally insusceptible to the poison, or had been rendered so by some of the circumstances to which they had been submitted. He now believes that they were not constitutionally insusceptible, for he has now discovered a practical method of rendering the dog insusceptible to Rabies at will. Considering, however, that the inoculation of Rabies may be very prolonged, and that this may always throw doubts on the proofs adduced, he asks the Academy to give credit for a time to his assertion, that this insusceptible condition may be produced by a system of inoculation. He possesses at the present time 23 dogs which have been subjected to virulent inoculations without danger. "To thus render the dogs insusceptible to Rabies would be not only a solution of the question of prophylaxis of this affection in the dog, but also in man, as man never contracts Rabies but as the result of a bite, the virus from which proceeds directly or indirectly from the dog. May not human medicine profit by the long duration of the period of incubation of Rabies, and endeavour to establish in this interval of time, before the appearance of the first hydrophobic symptoms, a condition of insusceptibility on the part of the bitten persons? But before such a hope as this can be realised, a long path has yet to be traversed."

GLANDERS IN NORTH AMERICA.

FROM information received from correspondents in different parts of the Province of Manitoba, there is every reason, states the *Winnipeg Free Press*, to fear that Glanders is exceedingly prevalent among horses. This disease is invariably fatal in its effects, is highly infectious and contagious, and dangerous alike to man and beast. In the absence of any practical law relating to diseases of animals during the earlier settlement of the province, Glanders appears to have secured a foothold. It is, however, gratifying to know that the Department of Agriculture, Statistics and Health has commenced a vigorous campaign with the object of securing its eradication. The utility of the new law passed by the Legislative Assembly last session has already become evident. Since then a Veterinary Sanitary Service has been established as a branch of the department, with a consulting veterinarian as adviser of the department, and fifteen district veterinarians acting in different counties. These have been instructed to rigidly carry out the law, and it is hoped that further spread of the disease will be averted. Many of the public are probably not aware of the serious results which would arise if prompt measures were not taken to stay the progress of the disease. The State of Illinois was visited last year by an epidemic of Glanders which proved so destructive to horses, and included so many human beings among its victims, that the state legislature voted a special appropriation of 25,000 dols. to secure its stamping out. It is hoped that such an expenditure will not be necessary in Manitoba, but the people of the Province will, no doubt, endorse any reasonable expenditure incurred in this connection.

FOOT-AND-MOUTH DISEASE IN THE UNITED STATES.

As might have been anticipated from the cattle traffic between the United States, hitherto free from Foot-and-mouth Disease, and this country, in which it has been so very prevalent, the disorder has appeared in two widely distant part of the States. It was introduced into Portland by diseased cattle from England, the ship *Ontario* having arrived there with a herd of twenty-eight Hereford cattle on February 2nd. These appeared to be healthy on their arrival, and were driven some distance along a road to a quarantine station. A few days afterwards they were reported to be suffering from Foot-and-mouth Disease, and a pair of oxen which were drawing a load of wood behind them on their way to quarantine, and had subsequently mixed with other native cattle, became diseased, and infected the latter. The disease was in such a mild form in the Hereford herd that the malady escaped the notice of Mr. Thayer, the veterinary surgeon who inspected them on landing. He, however, with Veterinary Surgeon Bailey, of Portland, diagnosed the disease soon afterwards among the native cattle, sixty-two head of which have been infected. Of course, prompt measures were immediately adopted to limit the spread of this insidious plague, but we know not yet with what result.

At the commencement of March, an outbreak of Foot-and-mouth Disease was reported at Neosho Falls, Texas. On the 8th of that month it was limited to an area of about five square miles, but was spreading. One hundred beasts had been attacked. On the twelfth the secretary of the cattle commission telegraphed that the infection had been carried there by two Scotchmen, who came direct from an infected herd in Scotland.

These outbreaks in the United States are not of serious moment, if proper measures are adopted. The Americans are a thoroughly practical people, and are not likely to make the stupid blunders we are always committing with regard to this and other contagious diseases of animals. They are not likely to view them from a political standpoint, and make political capital out of them, as is done in this country; and though, as with ourselves, they have sadly neglected veterinary science, and left it to fight its own way or succumb in the struggle, yet when once they find their agriculture seriously compromised, they will doubtless take up this question of Veterinary Sanitary Science with their usual dash, and get ahead of the old-world notions which still fetter and half ruin us.

CENTRAL VETERINARY MEDICAL SOCIETY'S
CONVERSAZIONE.

A VERY interesting evening was passed by the Fellows of the Central Veterinary Medical Society and their guests on the 24th January last. The rooms of the Medical Society of London, Chandos Street, were particularly well adapted to the purposes of the conversazione; the principal objects of interest were ranged round the large hall, and a smaller room was occupied by the microscope tables and a few other exhibits. Professor Axe had superintended the display of a very instructive series of prepared specimens, most of them being the result of his own studies, and the score or so of microscopes attracted and interested a continuous stream of visitors. Here also was shown Mr. D. McGill's beautiful instrument, the cardiograph, for the horse, together with several tracings taken under various conditions; Mr. McGill also exhibited an improved form of hobble. Adjacent to this was the embryotomy forceps or bone shears invented by Mr. G. Gray, together with his large speculum and syringe.

The collection of novelties and improvements in veterinary instruments shown by Messrs. Arnold and Messrs. Krohne and Sesemann well repaid a

careful inspection, though they were too numerous to specify here. Messrs Burgess, Willows and Co., in another portion of the hall, showed an attractive assortment of their specialities in drugs and compounded medicines, the encapsuled balls and coloured coated dog pills being very noticeable features.

Professor Tuson's disinfectant came in for a great share of attention, the methods of its operation being experimentally demonstrated; as, for instance, the decomposing action which it exerts upon sulphuretted hydrogen being proved by the deposit of sulphur in the flask. That it is a valuable antiseptic was conclusively proved by the exhibition of a pony's thigh (presentably decorated) which had been kept for four months in a perfectly fresh condition throughout by means of two sprayings with "Sporokton" in its liquid form.

Very ingenious and original were the large number of articles exhibited by Mr. W. South, the cervical vertebræ and other portions of the horse's frame being worked up, with various fittings and silver mountings, into such useful and ornamental objects as inkstands, candelabra, snuff-boxes, etc.

The pathological specimens were of great interest, notably those prepared by Professor Axe; several other gentlemen also had forwarded curiosities in this department, such as those from Messrs. Shipley (Yarmouth), Cooper (Dover), Samson, Rowe, and from the College Museum; among the latter were the facsimile representations, in wax, of the lesion characteristic of Cattle Plague; these models are the work of Mr. Tuson, who also contributed his unique water-colour drawings, depicting in the most minute and faithful manner the daily progress in the development of the chick. Mr. J. Rowe showed a highly complete and finished set of parturition instruments, devised for canine practice. Mention should also be made of the illustration of the uses to which luminous paint can be applied; this was given in a small room, kept darkened for the purpose, and was a focus of interest throughout the evening; among many applications of the paint suggested and shown were those for poison bottles, door plates, night bell-pulls and plates, keys, clock faces, etc. Many other of the exhibits were calculated to interest visitors not versed in medical science, for, in addition to numerous articles having relation to horses and stables, as various models and patents, the objects of art were many and attractive; the singing, also, which was given at frequent intervals throughout the evening by the glee party and solo vocalists, was highly appreciated. The library adjacent to the large room was devoted to the dispensing of tea, coffee, ices, and other refreshments.

Of the Fellows of the Society and professional friends the following were present: Professor Robertson, Professor Axe, Professor Tuson, Messrs. T. Greaves, W. Whittle, J. B. Martin, F. W. Wragg, J. Woodger, W. South, A. Prudames, E. C. Shave, J. Broad, Arthur Broad, A. C. Cope, H. C. Legge, W. Wilson, H. J. Hancock, W. Hunting, J. Rowe, C. Sheather, F. G. Samson, A. Broad, W. Mole, D. McGill, T. G. Batt, J. Penberthy, E. Batt, H. W. Caton, J. E. Jarvis, W. Roots, E. M. Davy, A. Rogerson, G. Gray, and A. H. Archer. Among the guests were Sir Joseph Fayrer, Dr. Quain, Professor Tanner, Professor Corfield, Dr. Garson, Dr. Power, Dr. Evans, Dr. Sansom, Dr. Collingridge, Dr. Binnie, Professor Jameson, Dr. Purcel, Dr. Moritz, and several other representatives of the medical profession. The President, Professor Pritchard, Dr. Fleming, and Mr. J. Roalfe Cox, who had taken active parts in the arrangements for the conversazione, expressed regret that they were unable to attend in consequence of their duties as examiners. The rooms were well filled, as, in addition to those named, there was a very great number of friends of the members and a large proportion of ladies; it was a late hour before the company dispersed, and the opinion was generally expressed that so highly successful and useful a meeting ought to be repeated at an early opportunity.

A. BROAD, *Hon. Sec.*

Proceedings of Veterinary Medical Societies, &c.

CENTRAL VETERINARY MEDICAL SOCIETY.

A MEETING of the above Society was held on the 7th February, Professor Pritchard presiding; Messrs. F. W. Wragg, G. R. Dudgeon, H. Davies, F. R. Ingersoll, F. G. Samson, H. J. Hancock, T. Burrell, J. Rowe, and W. Hunting were also present, and two visitors were introduced.

Mr. F. W. Wragg then gave his experience of the recent outbreaks of Influenza in a lucid and pithy essay, which was received with great interest.

On its conclusion the PRESIDENT expressed his pleasure at hearing the essayist's practical remarks, and invited discussion on the subject.

Mr. BURRELL remarked on the absence from the essay of particular allusion to that type of the disease known by the name of Bilious Fever. As an appellation for the malady too commonly styled "Pink Eye" he preferred that of "Mucous Fever"; the conjunctival and enteric membranes were, he said, both affected, shreds of mucus being frequently voided. Carbonate of ammonia had been alluded to; he considered it beneficial in some cases, but thought it very probable that large doses of this salt had been the cause of much aggravation of the original disorder. He would rather administer tincture of bark, with muriatic acid. He thought that the rheumatic complications were met with, generally, in those types of the disease wherein the serous membranes were involved. The exact definition of Influenza was difficult, in so many different forms did it appear.

Mr. SAMSON agreed with the essayist in considering the disease infectious; he found, too, that the older the horse the less his liability to contract it. He also advocated the employment of counter-irritation in laryngeal or pulmonary complications, preferring mustard to other applications, and recommended that steaming the head by means of scalded hay be resorted to. He adverted to the omission from the essay of allusion to the marked tendency to dropsical engorgement during Influenza, and said that the medicines he had most faith in were carbonate of ammonia and gentian. Quinine, also, should be given in some cases notwithstanding its expense.

Mr. ROWE alluded to the annual appearance in London of diseases which went by the name of Influenza. He had lately observed many of the bilious type. It had been stated, he said, that large doses of ammon. carb. might be safely administered, but he restricted his doses to one-and-a-half drachms, unless sulphate of magnesia was given at the same time, as then the irritating action of the ammonia upon the fauces and buccal membrane was lessened. As a useful agent he greatly prized old ale.

Professor PRITCHARD questioned the advisability of giving sulphate of magnesia and ammon. carb. in combination, and, in allusion to the last speaker's statement that balls so prepared had burst their covering, said that was quite what he should expect as a result of chemical action. Giving large doses of carbonate of ammonia was simply a question of proper dilution. If this point received attention, three or four drachms might be given without harm, but two drachms would be sufficient to cause untoward symptoms if insufficiently diluted.

Mr. HANCOCK complimented the essayist on the useful ideas to which he had given expression. The various forms assumed by this Protean malady had been universally noted; the point to be aimed at was to find the reason for this diversity; in his opinion, veterinary surgeons were "at sea" in this matter. To his mind, the arguments in support of the essentially infectious nature of Influenza were not thoroughly conclusive. At times the disease would spread through the whole stud, while in another instance only two or three of a large number of horses would be affected. In stables where case after case of Influenza had occurred, he had frequently found the drainage at

fault, or some other demonstrable defect in the sanitary condition. He thought the disease was due to atmospheric influences, and that its severity was occasionally exaggerated by local surroundings. He agreed with Mr. Burrell in considering "Pink Eye" to be a Mucous, or Muco-Enteritic Fever. Stimulants were his sheet anchor in treatment—carbonate of ammonia, the aromatic spirits, and whisky were the most useful; eggs and milk were given with good results. In a case or two of a serious nature, he had recourse to whisky and milk; the owner of the horses expressed himself as delighted at the successful issue, also with the treatment, provided that all similar stimulants were supplied at the veterinary surgeon's own expense.

Mr. HUNTING was of opinion that the term Influenza was used to describe several disorders. Two years ago a great number of horses were affected with sore-throat and febrile symptoms, yet it was no more than a local disease due to changes in the weather. Influenza is strictly a Fever, and its proper title would be Catarrhal Fever; where there is no catarrh, Influenza is not present. Sixty years ago Typhoid was not distinguished from Typhus Fever; in course of time he believed we should classify, under different headings, more than one disease now passing as Influenza. He had treated a number of cases of so-called "Pink Eye," and did not find, as in Influenza, a tendency to pleuritic complications, but rather to bowel inflammation, and a frequent rise in temperature to 106° , a point not commonly reached in Influenza. "Pink Eye" was, he thought, a distinct disease, and introduced from some foreign country. Influenza was undoubtedly contagious; it behaved in a similar manner to other contagious diseases; it travelled from one part and from one stable to another; when fresh horses were brought in, then the disease appeared. It was difficult, he said, to explain why Influenza should visit one stable more than another; in a yard under his observation, where the complaint recurs almost annually, it was one particular stable that was affected, the one in which the new horses were put. The best ventilated and drained stable may suffer, while in one quite opposite in these points no disease of the kind appears. Condition of stable seems to influence the advent of Influenza but little, movement of horses has more effect; thus it is most prevalent in dealers' stables. The first appearance of Influenza in this country is historically recorded, so that he had a right to ask; what changes had taken place in our climate since that time?

Mr. BURRELL said that he differed from the opinion apparently held by Mr. Hunting, that "Pink Eye" was a disease but recently seen in this country. He remembered an outbreak of an epizootic disease in 1851, which had similar characteristics. It was very severe, and but little understood, the mortality being great, chiefly on account of the very free use of purgative medicines.

Mr. WRAGG, replying, said that he had endeavoured to describe Influenza generally, without separately touching upon each of its forms and complications. He considered the name "Pink Eye" should be supplanted by that of Mucous Fever; he also agreed with the suggestion of Mr. Hunting, that Influenza should be classed as a Fever, its various types being distinguished by different names. He did not find any tendency to Purpura engendered by the use of ammon. carb., but gave it in considerable doses with much apparent benefit; it was said to cause too free action of the kidneys, but when this action took place the patient soon recovered. Mr. Samson, he noticed, recommended gentian, but he found that it induced purging, and therefore did not give it till the bowels were in a normal state. He had found the catarrhal form prevail during 1883, and the enteric in 1882. He agreed with the use of beer as a tonic; he avoided the application of counter-irritants as much as possible.

The meeting was terminated by a vote of thanks to the essayist.

ALFRED BROAD, *Hon. Sec.*

LINCOLNSHIRE VETERINARY MEDICAL SOCIETY.

THE annual meeting and dinner was held at the Angel Hotel, Peterboro', on the 28th of February; the President, Capt. B. H. Russell, Grantham, in the chair. The following members were also present, viz.:—Messrs. Brown, Navenby; Gresswell, Peterboro'; Greaves, Manchester; Dickinson, Boston; Spencer, Wragby; Whitworth, Grantham; Mackinder, sen., Peterboro'; Hoole, Heckington; Mackinder, jun., Peterboro'; Gooch, Stamford; Runciman, Market Deeping; Carless, Lincoln.

The minutes of the previous meeting were read and confirmed.

Mr. SPENCER proposed and Mr. GRESSWELL seconded the election of Mr. G. Osborne, Fulstow.—Carried unanimously.

Mr. CARLESS proposed and the PRESIDENT seconded the election of Mr. Gooch, Stamford.—Carried unanimously.

The PRESIDENT proposed and Mr. WHITWORTH seconded the election of Mr. Mackinder, sen., Peterboro'.—Carried unanimously.

The SECRETARY read letters from Professors Walley, Robertson, and Williams, and T. Greaves and G. Fleming, Esqs., thanking the Association for the honour of being elected Honorary Associates.

The election of office-bearers for 1884 was then proceeded with, and the following gentlemen, after being duly proposed and seconded, were elected:—

President: Mr. J. Mackinder, jun., Peterboro'. *Vice-Presidents*: Capt. B. Russell, Grantham; Mr. Gresswell, Peterboro'; and Mr. Hardy, Sleaford. *Secretary*: Mr. F. Spencer, Wragby. *Treasurer*: Mr. W. Carless, Lincoln.

Mr. J. MACKINDER then read a very interesting paper on Anthrax:—

Mr. President and Gentlemen,—The subject I have chosen to bring before you to-day—Anthrax—is one that we, as country practitioners, are greatly interested in, as it affects all the domestic animals with which we are brought in contact, and which, at the present time, is causing deep study and investigation on account of its importance to agriculturists and mankind. I shall endeavour to lay before you briefly its nature and causes, the forms in which it presents itself in different animals, and the treatment and preventive measures I consider applicable to each case. The true nature of Anthrax is still of very great doubt, even at the present time, although it has been described by the earliest writers, so early that one of the plagues the Egyptians suffered from has been recognised as one of the types of Anthrax. That it is of miasmatic origin is certain from the invariable presence of a number of Bacilli (called the *Bacillus Anthracis*) in the blood of animals affected with it. These Bacilli have the power of reproduction, and causing in other animals a similar disease. They are very tenacious of vitality, and act on the constituents of the blood by producing fermentation. The germs of these Bacilli are very small, so that they may be carried by the atmosphere or taken in the food. I now come to the second part of my subject—the cause. Atmospheric influences favour the development of this disease, it being prevalent in hot seasons on badly-drained soils, and in wet seasons on rich pastures. Animals that are suddenly brought from a spare diet to a rich one are very susceptible of this disease. Artificial foods and manures are also a prolific cause of this disease—the former from producing a rapid tendency to fatten, and the latter from its effect on the productions of the soil.

Want of exercise.—This is more especially noticed in young animals, and is in my opinion one of the great causes of that form of Anthrax known as Black-leg.

Contagion.—This is, in my opinion, a prolific cause of this disease, principally from the custom of cutting the throats of animals that are dying from the disease in the field or yard where other animals are.

Forms of Anthrax.—I purpose speaking of those forms of Anthrax mostly

met with in this district, viz. : Anthrax by contagion in the horse, Splenic Apoplexy in cattle and sheep, and Black-leg.

Anthrax in horses, by contagion.—I cannot lay too much stress on the seriousness of this form, having witnessed in my practice frequent outbreaks of it. A few years ago I was requested to visit some horses near Long Sutton. Upon my arrival I found one dead, and two others very seriously ill with Anthrax. Upon making inquiries I found that the owners had, the day previously, lent a cart to a neighbour to fetch a beast out of a field, to a butcher's slaughter-house, for the purpose of being dressed for human food. The bullock had been found in a dying state, and the owner at once cut its throat ; consequently the inside of the cart was smeared with blood. After brushing the cart out it was used to fetch green clover up for the horses' provender, and hence this outbreak of Anthrax. Still more recently, a severe outbreak of it took place in the neighbourhood of Stamford. My father was requested to meet Mr. Gooch, at Stamford, to investigate the cause of the outbreak, one horse being then ill and the owner had lost four others. Upon making inquiries it was ascertained that a few weeks before the owner had lost some cattle with Splenic Apoplexy ; their throats had been cut in the yard. From this yard there was a drain which ran alongside a field where they were pastured. The horses were taken ill, and all the five died. To show more fully that the disease was Anthrax, with which the horses were affected, I may mention a very serious result from it. A man who was employed to skin one of the horses died from blood-poisoning. I could enumerate several outbreaks of Anthrax among horses from this cause. Therefore it behoves us, as veterinary surgeons, to caution our clients against this practice. I now come to what I consider the most virulent form of Anthrax, viz. : Splenic Apoplexy. This disease affects both cattle and sheep, and is particularly fatal and sudden. Almost always the first indication of it is the finding of one animal dead, or dying, in the field or yard. They may be apparently in good health, have over-night partaken of their food as usual, and are dead in the morning. In other cases the disease seems more lingering. The animal arches its back and walks backwards ; the eyes are prominent and bloodshot ; pulse very quick and small ; fæces dry and hard, and stained with blood ; urine of a very high colour ; convulsions follow, and death ensues. The symptoms in sheep are very analogous to those in cattle. The disease may be easily diagnosed by closing the nostrils and causing the animal to urinate, when it will be found that the urine is tinged with blood. The flesh of animals that are slaughtered in consequence of this disease should never be used for food, it being, in my opinion, highly dangerous to mankind.

Black-leg.—This disease, known also as Quarter Evil, is so well known to you all that I need hardly speak of the symptoms.

Preventive measures.—I think the first place is due to the practice advocated by M. Pasteur, of inoculation. The theory is that if you produce a mild form of Anthrax, by the use of an attenuated virus, the animal so inoculated will be proof against any future outbreak. A full report of the method may be found in the VETERINARY JOURNAL for June, 1882. I cannot speak practically of the results arising from this. I can only say the Continental journals speak highly of it. All animals that have died from Anthrax should be buried six feet deep, with a thick covering of lime. The use of the lime is necessary, from the fact that the common earth-worm swallows the germs, and by bringing them to the surface gives rise to fresh outbreaks of the disease. M. Pasteur has conclusively proved this to be a fact, and in my own experience I have seen that when animals have been buried without the use of lime, stock placed in the same field, even after the lapse of two years, quickly fell victims of Anthrax. On those farms where

the disease frequently occurs I recommend all the young stock to be setoned when about nine months old ; the older ones, when at grass, to have a frequent change of pasture, and when in the yard to discontinue once a week the use of artificial foods. Among sheep the frequent change of pasture will have the desired effect, together with rock-salt *ad lib.* In Splenic Apoplexy among cattle, the curative measures we are in the habit of advocating are as follows :—As soon as the disease has made its appearance after the burial of the dead animals as I have described, we administer to each a draught, consisting of Sod. chlor. $\frac{3}{4}$ viij, in a pint of warm water. We then, in the winter season, order them to be turned out into a field, taking there a load of straw. If any of them is noticed to be at all dull, we at once cause it to be walked about for some hours. We keep them entirely from food, except the straw, until they call for it. If in the summer, we cause the whole of them to be walked about for several hours. The animals are strictly watched for several days, and if any of them show symptoms of the disease, we again administer the Soda chlor. I am not in favour of setoning when the disease has made its appearance, having witnessed inoculation by means of the seton needle. In proof of this, I may perhaps mention what took place some time since. A non-graduate setoned a number of beasts, amongst which Splenic Apoplexy had broken out. In a very short time eight of them died from inoculation. On being called in we at once advised the treatment I have described, with the satisfactory result of checking the disease. I may mention that great sloughing of tissue was the result of the setoning. I have endeavoured briefly to bring before you this treatment, having been so successful with it. I should very much like to hear from any present the means they have taken to check this disease and the result. I had intended speaking more of the germ theory, had it not formed the subject of discussion at our last meeting. I thank you for the kind attention you have given me, and trust that in any discussion that may follow some good may be the result, not only to ourselves, but the public at large.

An animated discussion followed the reading of Mr. Mackinder's paper, in which nearly all present took part.

It was decided that the next meeting should be held at Gainsborough.

A vote of thanks to the President and essayist then terminated the meeting.

The members subsequently sat down to an excellent dinner, provided at the Angel Hotel. Capt. Russell presided, and the vice-chair was occupied by the newly-elected President. A very pleasant evening was spent.

F. SPENCER, *Hon. Sec.*

ROYAL COUNTIES VETERINARY MEDICAL ASSOCIATION.

A MEETING of this Association was held at the Great Western Hotel, Reading, on the 29th of February, George A. Lepper, Esq., Aylesbury, President of the Association, in the chair. There were also present : Messrs. Flannagan, Reading ; Drewe, Abingdon ; Walker, Oxford ; Simpson, Maidenhead ; Wragg, Whitechapel, London ; James East, Aylesbury ; Castle, Thame ; Irving, Chipping Norton ; Darling, Bracknell ; H. G. Lepper, Aylesbury ; Wheatley, Reading ; Verney, Oxford ; Bull, Deddington ; Hanks, Wantage ; Hunt, Newbury ; Wilkins, Lambourne ; Varney, Winslow ; Howard, Newbury ; Mellett, Jun., Henley-on-Thames ; and the Secretary.

The following members were unable to be present, viz. :—Messrs. Joseph East, Aylesbury ; Simpson, Windsor ; Pritchard, Haverstock Hill, London ; Jones, Bristol ; Wyndham Bryer, Cheltenham ; Selfe, Bristol ; Emerton, Stony Stratford ; Sants, Bath ; Stainton, Reading ; Chisholm, Bicester ;

Rumbolt, Bristol ; T. W. Lepper, Aylesbury ; Page, Banbury ; Powell, Bletchley Station ; Rippon, Newbury ; and Barrow, Marlborough.

The minutes of the preliminary meeting were read and confirmed.

The Rules of the Association were read.

The next meeting was fixed to be held at Oxford, on the 25th of July next.

The following resolution was submitted and unanimously adopted : " This Association approves the notice of motion given by Mr. H. L. Simpson, of Windsor, to the Members of Council of R. C. V. S., and it expresses its decided opinion that it is clearly the duty of the said Council to consider the subject referred to in the notice of motion, and to give an expression of opinion thereon, which may in future guide the members of the profession as to the continuance or discontinuance of what they believe to be a necessary operation under many circumstances."

The PRESIDENT then delivered the inaugural address, as follows :—

Gentlemen,—We are met together to-day to inaugurate the Royal Counties Veterinary Medical Association, and it is with feelings of great pleasure that I rise to address you on this interesting occasion.

Allow me at once to congratulate those gentlemen who have striven so ardently to promote the formation of this Association upon the results of their efforts as shown by the large attendance here to-day.

This society, gentlemen, is only one of similar societies established in various parts of the country, which are each in their respective districts advancing the interests of their members in various ways, and exercising a most healthy influence upon our profession generally ; and it would be more than strange if we who practise in the Royal Counties should in our apathy be deprived of the advantages to be gained from such an association. Your presence here to-day, however, effectually disposes of all danger of reproach in that respect.

I sincerely hope that this, our first meeting, may be the forerunner of many gatherings yet to come, where new friendships shall be formed and old ones cemented amongst us ; where profitable discussions will be carried on in a friendly spirit, and a feeling of good fellowship generated to our mutual instruction and advantage.

Gentlemen, I beg to thank you most cordially for the honour you have done me in electing me your President for the year, at the same time I sincerely wished you had exercised your choice with more discrimination. I am bound to say there are many here who are able, *possibly*, to give more time to, and *certainly* able to bring greater ability to bear upon the objects of this association, but that I yield to none in my earnest desire to forward the interests of this Society. In the midst of a hard, working practice, it may be difficult regularly to attend the meetings, but it will always be my endeavour to do my utmost to further the welfare of this association and to promote the interests of our profession generally.

Gentlemen the objects of our association are fourfold, viz. :

- 1st. To promote the elevation of our profession.
- 2nd. To establish and promote a good and friendly understanding amongst its members.
- 3rd. To supervise and protect our professional interests.
- 4th. To read and discuss scientific subjects relating to the theory and practice of veterinary medicine and surgery.

Firstly, then, as to the elevation of our profession.

The veterinary profession in this country is very young ; indeed, one might almost say it is scarcely out of its infancy. Its elevation is an important matter, and one which is uppermost in our thoughts. We have not advanced, it is true, with rapid strides, but, nevertheless, we have made progress, and when we take a retrospective view and calmly consider what

has been done and what improvements in our position have taken place, especially of late years, I think we ought to take courage for the future and steadfastly determine that no efforts of ours shall be wanting to elevate the status of the profession in the estimation of our clients and the country at large.

Previous to the year 1791, no veterinary school existed in this country, and it was not until 1844 that a charter was obtained, with the object, to quote from its preamble, "to improve the veterinary art, which had hitherto been practised generally by ignorant and incompetent persons, which had been long and universally complained of."

If we may judge from the scanty literature of the period relating to the treatment of diseases in animals, the universal complaint would seem to have been laid upon a very substantial foundation. However, from the early part of this century, men of our calling have been found working hard and earnestly for the good of those who were to come after them, and in our own days, I am proud to say, there are not lacking those who still follow the same laborious course, to their own honour and to the lasting benefit of their professional brethren.

Among the many improvements which have taken place of late, and the various benefits which have been conferred upon us, I would mention the examination in general education now insisted on previous to a pupil commencing his studies at the veterinary schools; and on this point I may say that, in my judgment, the Council will do well to raise the standard of this preliminary test from time to time, for there is nothing, depend upon it, which tends so greatly to retard professional progress in these times as a want of education, and, I venture to hope, that before long the candidates for entry to our schools may be subjected to as severe a test examination as is now applied to students of our sister profession.

The period of time to be spent in the schools has been lengthened, the examination for the diploma is more strict and searching, the Court of Examiners has been reorganised, a practical examination is most wisely insisted upon, and I trust it will be made still more practical. A new charter and also supplementary charters have been obtained, conferring lasting benefits upon us, Government appointments, both civil and military, are offered to us, and a veterinary department, now called the Agricultural Department, is established in the State. All these and many other instances, not to forget the efforts being now made to secure a decent and adequate home for veterinary science in London, tend to show that at all events some progress has been made; at the same time, gentlemen, I need scarcely remind you that it rests in a great measure with each one of us individually, whether or not our profession occupies that position in the eyes of the public which it ought to do. We must feel that the credit of the profession is carried by each of us on our own shoulders. Let us be true to ourselves, and we shall be respected by others, and our calling will attain the proud position which we should like to see it occupy.

Before leaving this part of my subject I would like to acknowledge the obligation we owe to His Royal Highness the Prince of Wales, who has most graciously received some of our leading men at Court, and removed the social ban which had been unjustly resting upon members of a noble profession in their exclusion from the Court of their Sovereign.

The *second* object of our association is "the establishing and promoting a good and friendly understanding amongst its members."

There are surely no great difficulties here to encounter. There may be prejudices to cast aside and personal difficulties between some of us to be removed; but these will soon vanish, if any such there be, provided we approach the consideration of our affairs with the determination to conscientiously do our duty to one another to the best of our ability. Looking at the importance

of the work which lies before us, it is greatly to be desired that we should feel a pleasure in professionally assisting one another.

As this society will be the vehicle for the interchange of ideas, so let it be our boast that any scientific discovery or successful treatment of disease be not wrapped up in the bosom of the happy discoverer or fortunate practitioner ; let all reap the benefit of his success. Let the timely advice of the old practitioner be always available, and let his example stir up the young ones to habits of business and industry, and let not those who are getting grey amongst us forget how frequently we have profited by the studies and researches of those younger than ourselves.

Thirdly. "The supervision and protection of our professional interests" claims our attention.

These important matters rest in a great measure in the hands of the Council of the Royal College of Veterinary Surgeons, in whose election each of us has a voice.

The Council have succeeded in passing many measures, creditable to themselves and advantageous to their profession, for which they deserve our heartiest thanks. It would be idle for me to contend that the Council have been able to give satisfaction to the profession in every matter they have undertaken ; but I do believe those who are in authority have the interests of the profession at heart, and will do their best to promote its welfare.

I am of opinion that *all members* of the Royal College of Veterinary Surgeons ought to be eligible to serve on the Council, and that the members of the Council should not be confined to *Fellows* of the College, and for this reason, viz. : that many who are well qualified in all respects for a seat upon the Council of the College are absolutely debarred by the cares of a large practice from giving the time necessary to enable them to pass the Fellowship examination, and if it be true that an attempt will be made to confine the candidates for office to Fellows, I am of opinion that it should be strenuously opposed.

The *fourth* object of this Association, although the last is by no means the least ; it is "the reading and discussion of scientific subjects relating to the theory and practice of veterinary medicine and surgery."

You are well aware, gentlemen, how many and varied are the scientific subjects pertaining to our calling, and what a large field for scientific research is open to us. Those who wish to excel amongst us must not be content to study the anatomy of animals, to obtain an insight into chemistry and botany, to be able to administer medicines and to perform the operations of veterinary surgery, but they must become really scientific men as well as practical veterinary surgeons.

We all recognise that great advances have been made in veterinary literature of late years. Many and valuable are the additions to the small stock of works relating to veterinary surgery and medicine of our early days.

Little was known of what is now termed "preventive medicine"; formerly the "healing art" was alone considered. At the present day we seem to be on the threshold of a new era, in veterinary science, tending to the averting of diseases of animals, which cause loss to their owners and suffering to themselves. Would that the desired end were nearer within our grasp. The subject demands the closest study and many experiments in the future.

We are well aware, gentlemen, of the preventive influence of vaccination, and "preventive medicine" started from the study of the diseases of animals. So far I refrain from referring in detail to that branch of this subject ; rather let me mention a few instances of the great benefits which have accrued from experimental research.

Pasteur, the celebrated French chemist, succeeded in warding off attacks of that fearful disease known as Splenic Apoplexy by inoculating animals

with a fluid containing the virus of the disease. It had been known for many years that the blood of animals affected with this disease contained a particular fungus, and it was believed that this lowly organised fungus was the cause of the disease. After collecting various facts and putting them together it was discovered that the disease not only spread from one animal to another, but that the carcasses of buried animals were capable of disseminating the disease by means of worms which fed on the carcasses and brought the poison to the surface of the ground. This was proved by feeding cattle over the graves of infected animals.

Continental veterinarians have vaccinated for Fowl Cholera, which ravaged the poultry-yards of France, with most interesting and satisfactory results ; also pigs for Swine Fever, a disease which has wrought great havoc amongst the swine of this country.

Animals have been experimented on in order to discover in which fluid of the body the contagium of that mysterious and terrible disease, Hydrophobia, existed. Paul Bert injected into an animal the blood of a dog suffering from Rabies, and found the animal experimented on remained healthy and well. Having assured himself that the blood did not contain the disease he injected pure saliva, from the salivary glands, with the same negative results. He then strained through a filter the saliva, mixed with mucus from the lungs, and found that the solids which remained behind, and with which he inoculated, unfailingly produced the disease.

To touch upon another branch of research. Our attention of late years has been directed to the outbreaks of epizootic diseases amongst farm stock, which have occasioned immense loss to the country at large.

Many of us well remember the enormous loss sustained, and the fearful ravages committed by the Cattle Plague, in 1865-66, which was imported into this country from the Steppes of Russia—the most fatal of all diseases affecting cattle, and which has since visited us in 1872. The loss inflicted by the first outbreak amounted to millions of pounds, and entailed the ruin of hundreds of families ; yet the treatment and cure of this awful disease are still vexed questions, and the cause of it is unknown.

The history of Epizootic Pleuro-pneumonia teaches us that it also is a disease of foreign origin, and although continually making its appearance years ago in various parts of the country, there have been long intervals when it seems to have been entirely absent, but since 1842 it has not failed to manifest itself continually in this country.

Inoculation for Pleuro-pneumonia has many advocates, and although it has its drawbacks, it should not only claim our attention, but our best consideration. I regret that I have not experimented in that direction myself. In an article in the VETERINARY JOURNAL I see it stated that “the evidence in favour of protective inoculation for this disease is now, it may be said, overwhelming. In every part of the world where it has been tried, its value appears to have been amply demonstrated, often even when the operation has been performed by amateurs.”

The Dutch Government some eight years ago passed a decree authorising the burgomaster to order the compulsory inoculation of all cattle which had been in contact with diseased ones, the operation to be performed by a qualified veterinary surgeon, and the fee to be paid by the State ; and this is, no doubt, more a matter for imperial than for individual consideration.

After making mention of the Rinderpest and Epizootic Pleuro-pneumonia, my thoughts naturally turn to a disease which I believe is one of the oldest of European diseases of cattle : I allude to the malady known as “Eczema Epizootica,” or Foot-and-mouth Disease. It is not only one of the oldest, but one of the most infectious and contagious maladies which affects domestic animals, and is also, perhaps, the easiest of transmission.

We are well aware that its extension is due to its contagious properties, but the causes of the disease are wrapped in obscurity.

Mr. Fleming, in his admirable work on "Sanitary Science and Police," says that "we know no more of the causes which originally develop this malady than we do of those of Variola, Cattle-plague, or Lung-plague. Every cause that tends to diminish health has been invoked, but no sooner is it investigated than it is found to be incompetent to produce the disease. Sudden atmospheric changes, feeding upon altered or unhealthy food, drinking putrid or muddy water, grazing in marshy regions, fatigue in travelling, have been cited as occasional causes. We only know that it always appears in an epizootic form, that in certain times it becomes widely extended, invading whole countries, and that its extension is due to its contagious properties *alone*, and the facilities offered for the dissemination of the virus."

The disease was not known in this country, at any rate in modern times, before the year 1839, since which time it has frequently visited us. A most severe outbreak occurred in 1872, when, it is asserted, some thousands of animals suffered from the disease, and the loss in money to this country amounted to something like £13,000,000. The present serious outbreak, which has now lasted over a considerable period, is a subject which greatly claims our attention. Serious losses have occurred not only to farmers and dairymen, but to the country at large. The question has become one for the consumer of meat more than one for the consideration of the producer.

I regret that curative measures are not sufficiently thought of, and that animals are so seldom placed under proper treatment, which, in very many cases, would greatly mitigate the severity of the attack.

Efforts have been made by Government in order to stamp out the disease, *but so long as animals are imported from countries where the malady exists, so long will our flocks and herds suffer from repeated attacks.*

Local authorities have been blamed for their want of uniformity of action, but the great apathy shown on the part of the Government is very much more deserving of our censure.

In my own neighbourhood, the local authorities have acted in an exemplary and praiseworthy manner, and although they have not escaped censure, the active part taken by them in endeavouring to stamp out the disease, with the sincere desire to do their best for the country at large, is worthy of all praise. Had other local authorities acted in the same energetic manner, we should not have experienced the losses which have taken place.

There are other subjects, gentlemen, which I should like to touch upon; for instance, the many parasitic diseases, the various forms of Anthrax, and the vast number of sporadic diseases which occur in our everyday practice; it would, however, be impossible for me in a short address to range over the various subjects of veterinary medicine and surgery. I have referred to a few only which have come across my mind. I trust at our next meeting some one will be good enough to read a paper dealing with a particular subject, from which we shall derive far greater advantage than by ranging over several subjects as I have done to-day in this desultory manner.

It only remains for me, gentlemen, to thank you for the kind attention which you have given to my address. I am very conscious of my shortcomings, for which I claim your indulgence.

I beg, in conclusion, to express my hearty wishes for the long and enduring success of the Royal Counties Veterinary Medical Association.

Mr. DREWE proposed a vote of thanks to the President for his able and interesting address, which was seconded by Mr. HANKS and carried unanimously.

The members afterwards dined together, when a most enjoyable evening was spent.

H. KIDD, Hon. Sec.

YORKSHIRE VETERINARY MEDICAL SOCIETY.

[The following remarks on Azoturia were inadvertently overlooked in forwarding the proceedings of this Society, which appeared in the last number of the Journal.]

PROFESSOR WILLIAMS said : Mr. President and Gentlemen,—With your leave I wish to make a few remarks on Professor Axe's paper on "Azoturia," delivered before this Society at your last quarterly meeting, and in which he rather severely criticises my observations on this disease.

He says in the first place, "That the precipitate thrown down on the addition of nitric acid and subsequent boiling, is essentially albumen and not urea, as has been stated"; and again, "That while the amount of urea contained in the urine varies in different cases, it cannot be said to exist in any abnormal quantities," etc.

Now, in answer to Professor Axe's first assertion, I have to mention that Professor Walley, in a paper lately read by him, says that albumen is never present, and that the precipitate is always urea.

When I first investigated this disease I could have supported the observations of Mr. Walley without the slightest hesitation; but further experience has convinced me that in all cases the urea is abnormally increased, if properly tested for (but the method pursued by Professor Axe, namely, adding nitric acid and boiling, is simply ridiculous, as boiling dissolves the nitrate of urea); that in some cases albumen is present in slight or moderate quantities, and in very rare instances the albumen is rather abundant; for example, the very last case I have seen, and which is now under treatment, analysis of one ounce of urine, or 480m., gave the following results: albumen 1·31grs., urea 56·91grs. Now the precipitate of albumen was greater in this case than in any one that I had ever met with before, and it will be seen that the urea was nearly one-eighth of the whole ounce; and, very remarkable to relate, it was found, both by the professor of chemistry (Dr. Ivison Macadam) and myself, that this sample contained 43·75grs. of sugar to the ounce of urine.

I am quite willing to admit that much has to be done before the true nature of this disease can be clearly ascertained, but I do object to such strong statements as those made by Professor Axe, when he says:—"It has already been rendered obvious that the teachings of the present day are based on purely theoretical grounds, and rest rather on physiological possibilities than on pathological data."

With regard to the term "Azoturia," I have only to state that it was the best I could give the disease. Fault is, however, found with it, both by Professor Axe and Professor Walley, the latter of whom did not even suggest a substitute, whilst the former terms it Acute Convulsive Hæmatinuria—a term which throws no further light on the pathology of the disease than Azoturia; they are both simply the names of a symptom or symptoms, Azoturia, however, being sufficient to describe the condition of the urine, whether it contains albumen or not.

The professor then handed round a specimen of very beautifully-prepared crystals of nitrate of urea, containing over 60 grains, obtained from an ounce of urine several years ago, and which he said was perfectly free from albumen. He then made some practical remarks on the treatment of the disease.

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE seventy-eighth quarterly meeting of the above association was held in the Medical Institute, Hope Street, Liverpool, on the 8th February, the President, R. S. Reynolds, Esq., in the chair. There were present:—Messrs.

Moore, Leather, Davey, Edwards, Storrar, Bell, Kenny, Locke, Woods, Whittle, Pielkington, Elam, J. Leather, Morgan, Kitchen, Welsby, W. A. Taylor, and the Secretary. Letters for non-attendance were received from Messrs. Fleming, Greaves, Faulkner, Lloyd, and P. Taylor.

The minutes of the last meeting being read and approved,

The TREASURER read the annual report.

Mr. WHITTLE moved, and Mr. W. LEATHER seconded, that the report be adopted (carried).

The SECRETARY proposed, and Mr. WOODS seconded, that Mr. Geo. Morgan, of this town, be supported by the members of this association for one of the forthcoming vacancies in the Council of the R.C.V.S.

Proposed by Mr. ELAM, and seconded by Mr. LOCKE, that the President, Secretary, Messrs. Moore, Leather, and Elam form a committee to ensure his return; and co-operate with the Midland Counties, Lancashire, and Yorkshire societies, for that object.

The PRESIDENT commenced his inaugural address by thanking the members for having unanimously re-elected him, and apologized for the mediocrity of the remarks he was about to make, on the plea that so little affecting the interests of the profession had transpired since he had the honour to address them a year ago. He deplored the apathy of members of the immediate neighbourhood towards gatherings of professional interest, pointed out that the absentees were the greatest losers by their indifference, and exhorted each member to exercise his energies for the promotion of a free interchange of thought upon subjects appertaining to veterinary science, and encouraged all to cultivate a kindly and generous feeling towards their rivals in practice. He next glanced at the working of the society during the past year, and feelingly alluded to the loss sustained by the death of the late Mr. Tom Taylor, of Manchester. In reviewing the discussion which took place at the previous quarterly meeting upon "the treatment of sidebone" and the "operation of docking," the President said he purposely allowed the discussion greater latitude than was admissible by the ordinary rules of debate, for he felt that important issues were involved which, at no distant date, would demand either the complete submission or the determined opposition of practitioners to the will of one or two magnates who appeared to have risen to be the dictators of the working body. The question of alleged cruelty in the performance of legitimate operations, by qualified men, was more fitted to occupy the attention of a general meeting of the profession than an association of this kind, whose functions should, for the most part, be confined to a consideration of pathological subjects rather than to professional politics and ethics. He next directed attention to a threatened usurpation by a few medical men of functions which could be most effectually dealt with by veterinarians, and quoted a resolution upon the "public milk supply" originating from the Medical Officer of Health of an adjoining borough, and which had been subsequently adopted by no less a sanitarian than the eminent surgeon, Mr. Ernest Hart, of London. The speaker did not, however, believe that so long as our profession showed themselves capable of thoroughly negotiating this and kindred subjects of public necessity, there was any fear of losing the ground already gained; but rather that although the blows of the reformers might be aimed at us, they would be more likely to fall upon the heads of those incompetent officers appointed by many rural and some urban authorities, to a duty that can only be well performed by men of education and skill in veterinary matters.

With reference to Foot-and-mouth Disease, the PRESIDENT said:—"An absorbing topic involving alike the interests of farmers, veterinary surgeons, and the meat-consuming population, is the eradication of Foot-and-mouth

Disease. Notwithstanding the severe, and in some cases embarrassing, orders issued by the Privy Council, with a view of arresting the spread of this essentially infectious disease, its extension has been such that any one who has given serious consideration to the subject must have been forced to the conclusion that the powers already possessed, whilst being sufficient to limit its propagation, are impotent to ensure its elimination from the country. On the one hand it seems clear that breeders and graziers cannot be required to submit to increased restrictions, and it is equally evident that so long as any virus remains in the country it will at some time or another become manifested by renewed outbreaks of the malady. The similarity between Cattle Plague and Foot-and-mouth Disease begins and ends in their being imported and equally infectious. It is quite improbable that the dreaded Rinderpest will ever again obtain any lengthened hold upon our herds, and it may be reasonably argued that if compulsory slaughter, associated with other severe precautions, of animals attacked with the less fatal Foot-and-mouth Disease had been adopted with equal energy upon its primary introduction into this country, the practice would have been attended with an equally satisfactory result; but the golden moment has gone, and we have to deal with a virus almost universally diffused, and the duration of whose vitality is undetermined. The abstract circumstance that Foot-and-mouth Disease is only very rarely fatal is, to my mind, no inconsiderable factor in the dissemination of the malady, for the reason that each affected beast, being a perfect centre of infection, lives to throw off incalculable particles of virus to be dispersed in all directions. Another reason why the disease is so tenacious is that, unlike most maladies of similar kind, an original attack confers only partial immunity from a second.

“The attitude of agriculturists, who are the primary sufferers from the ravages of animal plagues, is that an interdiction should be placed upon the importation of live animals, or that importation should only be conducted under restrictions which, if not absolutely impracticable, would be attended with enormous difficulty and consequent expense. Those farmers’ associations who have debated the question have regarded it on one side only, or at least their view of it has been limited by individual interest. When they propose to deal with the matter as one of meat supply, and advocate the establishment of a carcase-trade only between Great Britain and Ireland, they have closed their eyes to the fact that there is bred and reared to three years old, in the island across St. George’s Channel, more store stock than can be got ready for the butcher, and which have to be sent over in thousands, to be finally prepared in the feeding marshes and pastures of England and Scotland during summer; or to be fatted upon the root crops of our eastern and Midland counties in the winter months. On the other hand, a large proportion of English land is unsuited to stock breeding; and if no supply from an extrinsic source was available to consume the surplus products of our cultivation, how would farmers be able to obtain a sufficient supply of store stock? Some estimate of the magnitude of the trade that is carried on between this country and Ireland may be formed when I tell you that at the port of Liverpool, during the six weeks of last autumn, when some local authorities of the eastern counties required a certificate of health of imported animals consigned to their districts from the port of embarkation, no less than 7,700 head of store cattle were submitted to veterinary examination.

“Having glanced at the agricultural aspect of the question, I shall pass over the consumer’s arguments *pro* and *con*, because problems of political economy can only be solved by persons specially skilled and experienced in dealing with such matters, to a consideration of what should be the function and duty of the veterinary profession in combating the subject. The disease

is such a common everyday thing that we are wont to give it little thought beyond what is necessary for the performance of our routine duties in connection therewith; and yet we equally well know, upon undisputed authority, that the losses and deterioration it has caused exceeds that of any other disease to which cattle are liable. That the Privy Council is excellently well advised upon the contagious diseases of animals you will agree with me; and that the difficulties with which the Veterinary Department of the Government is beset, in their endeavour to meet the many conflicting interests, must be excessive; and, also, that very great credit is due to our lawgivers and their consultant officers for the excellence of their provisions and the very satisfactory results that have obtained therefrom. But it is rather to the attention of the profession, as a body, and especially to the scientific workers of that body, that the subject should be directed. What those foreign scientists—Pasteur, Colin, and Chauveau—have by scientific experimental research achieved in rendering absolutely harmless such formidable diseases as Charbon and the Cholera of Poultry, surely our Williamses, McCalls, and Flemings can, or ought to, accomplish for the relatively benign Foot-and-mouth Disease. It is not for me—an ordinary practitioner—to foreshadow the lines upon which experimental inquiry, necessary to accomplish the desired object, are to be drawn; but I do believe and prophesy that the only practical way of reducing to a minimum the devastations caused by Bovine Eczema will be to diminish the potency of the malady by inoculation—mayb erequiring to be periodically repeated—with virus attenuated by cultivation. You will recollect that last year I directed your attention to the practice of animal inoculation for the subjugation of fatal germ diseases on the Continent; and I am desirous now to impress upon you my full conviction that it is by some modification of this process that the British stock-owner must seek for relief from the ill consequences of Foot-and-mouth Disease. That such can be accomplished, I feel certain; that it is not very difficult, I believe; and that, too, in defiance of the obstruction which the Vivisection Act appears to offer to its consummation; that the reward of the discoverer of the successful plan will be immense, and that his name will descend to posterity as a public benefactor, no one will doubt.”

The PRESIDENT brought his address to a conclusion by giving a brief summary of the recent experiments abroad, in relation to inoculation for the suppression of contagious diseases.

An animated discussion ensued, in which most of the members present took part.

In the absence of Mr. Ross (who had promised to introduce the subject of Soundness in Horses), Mr. W. A. TAYLOR brought forward the question of Unsoleing Horses, etc., which was well discussed.

A vote of thanks to the President, and another to Mr. Taylor, then terminated the meeting.

ALEX. BAIN, *Hon. Sec.*

ANNUAL MEETING OF SCOTTISH VETERINARY ASSOCIATIONS.

[The following report is from an Edinburgh newspaper, the detailed report arriving too late for insertion this month.]

THE second annual meeting of the Scottish Metropolitan, West of Scotland, and Scottish Central Veterinary Medical Associations was held on February 22nd, at the Waterloo Hotel, Edinburgh, when there was a large attendance of members. Mr. C. Philips, Army Veterinary Department, the retiring president of the Metropolitan Society, delivered up the chair to the newly-elected president, Principal Walley, and Mr. R. Rutherford also delivered up his office as secretary to Professor Lewis. Some formal business was

transacted, and a report was received as to a memorial which was presented by the conjoint Scottish societies to the R.C.V.S. regarding the representation of Scotland in the Council. The memorial recommended the adoption of a new system in the election of members to the Council of the Royal College of Veterinary Surgeons, a reply to which had been received to the effect that the charters of the College did not empower the Council to alter the mode of election. Mr. C. Cunningham, who presented the report, pointed out that the Council had already altered the mode of election from a show of hands to voting by circular. He thought that the memorial deserved other treatment at the hands of the Council, and added that there were two courses open to the Scottish societies; they might make another attempt to obtain a separate charter for Scotland, or they might undertake long journeys to London and try to reform the Council. The Chairman asked that the discussion of this question might stand over until after the delivery of his address. He pointed out that any alteration in the mode of voting would probably require fresh legislation. Proceeding to deliver his inaugural address, Principal Walley referred to the great strides which the profession had made during the last fifteen or twenty years. On the question of the value of docking horses' tails, he looked upon the operation as very necessary, but thought that it might be performed early in life, and that there was no need for the use of the cruel cautery. Principal Walley then passed in review a great number of subjects of interest to the veterinary profession, touching on the operation of the new Veterinary Act, the relation of the schools to the R.C.V.S., and the constitution and influence of the present Examination Board. He entered into a defence of the veterinary schools, and of the action taken by the professors in endeavouring to secure the best interests of their pupils, expressing a hope that the fashionable system of cavilling at the schools would fall into desuetude. In the discussion which followed the reading of the president's address, Principal Williams pointed out that a new charter would be required by the College in two years, and he thought that at that time they would be in a very good position to carry their reform with reference to the mode of election. Principal M'Call opposed any attempt being made to secure a separate charter for Scotland, in the belief that they might reasonably hope to succeed in obtaining a larger share of representation on the Council. Mr. Pottie thought there was no hope that they would get anything from the College, and that they would have to go in for a new charter. At the same time, he thought they ought to wait for two years, until a new charter was obtained, and if then their claims were ignored, let them agitate for a separate charter. Other speakers who followed expressed a strong opinion in favour of some action being taken to secure a juster representation for Scotland in the Council. Mr. Greaves, of Manchester, a member of the Council, said that when the memorial was placed before the Council it met with a fair and candid reception; but in order to comply with its request a new charter would have to be obtained. For that charter he would vote. Mr. Cunningham proposed that energetic action be taken at once, and that Principals Walley, Williams, and M'Call be nominated as candidates for the Council. Mr. R. Rutherford seconded. He thought that the Principals of Colleges ought to be *ex-officio* members of the Council. A further motion was carried that the conjoint Scottish societies should amalgamate with the societies of the North of England for the purpose of carrying the candidates nominated, in conjunction with Mr. Stevenson, of Newcastle, the nominee of the North of England. The assembled members of the three societies afterwards sat down to dinner, to the number of about seventy. Principal Walley, who presided, was supported by Bailie Anderson, the Rev. Mr. Overend, Principals M'Call and Williams, Professor M'Queen, and Messrs. Philips, A.V.D., 3d Dragoons; Nicholson, 3d Dragoons; Archibald Baird, Scots Greys; Greaves, Manchester; Macgregor, Bedlington; Hunter and Smart,

Newcastle ; and Mulvey, Bishop Auckland. After the usual toasts, Mr Spreull proposed the toast of the "Royal College of Veterinary Surgeons," which was responded to by Mr. Greaves, who said he should be glad to see a greater number of Scotsmen in the Council than there were at present. The matter rested in their own hands, and they might obtain a greater share in the representation of the Council if they would only shake off their apathy, and agitate as the men of Lancashire had done twenty years ago. The remaining toasts were "The Sister Profession," proposed by Professor M'Queen, and responded to by Dr. Hunter ; "The Highland and Agricultural Society of Scotland," proposed by Mr. Borthwick, and replied to by Mr. Connachie ; "The Lord Provost, Magistrates, and Town Council," proposed by Principal M'Call, and replied to by Bailie Anderson ; "The Scottish and Kindred Veterinary Medical Associations," proposed by Principal Williams, and replied to by the presidents of the different associations ; "The Benevolent and Mutual Defence Association," proposed by Mr. Pottie, and replied to by Mr. Greaves and Mr. P. Taylor ; "The Board of Examiners," proposed by Mr. Cunningham, and replied to by Mr. A. Robinson ; "The Schools," proposed by Bailie Anderson, and replied to by the Principals ; and "The Visitors."

ROYAL AGRICULTURAL SOCIETY.

AT the Monthly Council Meeting, held on March 5th, Mr. Dent reported that the Committee had received the following letter from the examiners appointed by the Royal College of Veterinary Surgeons, in accordance with which they recommended that the medals of the Society be awarded to Mr. J. G. Parr, St. James's Road, Leicester, and Mr. W. H. Bloye, 8, Westminster Terrace, Mutley, Plymouth :—

To the President and Council of the Royal College of Veterinary Surgeons.

GENTLEMEN,—We have the honour to report that, having examined, in April, 1883, both practically and theoretically on the diseases affecting the animals of the farm other than the horse, Mr. J. G. Parr and Mr. W. H. Bloye, the only two candidates for the diploma of the Royal College of Veterinary Surgeons who, since the last award of the prizes given by the Royal Agricultural Society of England, have obtained sufficiently high marks to entitle them to the medals now offered by that Society, we consider Mr. Parr worthy of the first and Mr. Bloye of second place, and recommend that the medals should be so awarded.

WILLIAM DUGUID.

CHAS. GRESSWELL.

This report was adopted.

NATIONAL VETERINARY BENEVOLENT AND DEFENCE FUNDS.

LIST OF SUBSCRIPTIONS FROM MARCH 9TH, 1883, TO MARCH 9TH, 1884.

1883.		£	s.	d.	1883.		£	s.	d.
March 14.	T. Hopkins ...	1	1	0	June 15.	J. L. Barling ...	0	10	6
April 8.	C. Sheather ...	1	1	0	„ 15.	Professor Walley ...	0	10	6
„ 16.	T. D. Lambert ...	1	1	0	„ 15.	A. Lawson ...	1	1	0
„ 16.	G. H. Darwell ...	1	1	0	„ 15.	J. Lawson ...	1	1	0
„ 20.	B. Cartledge ...	0	10	6	July 7.	D. R. Sowerby ...	0	10	6
„ 20.	F. Riddler ...	1	1	0	„ 14.	G. Oliver ...	1	1	0
„ 20.	E. Woodger ...	3	3	0	„ 18.	G. Oliver ...	5	0	0
„ 20.	J. Leather & Son ...	2	2	0	„ 21.	Thos. Barker... ..	6	1	0
May 5.	Wm. Dobie ...	1	1	0	„ 26.	W. A. Field ...	0	10	6
„ 12.	Professor Williams..	1	1	0	Aug. 5.	A. Bain ...	6	1	0
„ 12.	S. Locke... ..	1	1	0	„ 5.	John Brizzell ...	6	1	0
„ 17.	A. H. Darwell ...	1	1	0	Oct. 25.	John Howard... ..	0	10	6

National Veterinary Benevolent and Defence Funds. 285

		£	s.	d.
Nov.	29. G. Ball & Son	...	2	2 0
"	30. James Martin...	...	1	1 0
Dec.	9. J. M. Stanley...	...	3	3 0
1884.				
Jan.	1. T. Proctor	...	1	1 0
"	2. R. Reynolds	...	1	1 0
"	2. B. Cartledge	...	0	10 6
"	2. J. Rowe	...	1	1 0
"	2. Wm. Carless	...	1	1 0
"	2. John Marksham	...	0	10 6
"	3. W. H. McCaldon	...	2	2 0
"	3. J. C. James	...	0	10 6
"	3. E. Nuttall	...	0	10 6
"	3. P. E. Rothwell	...	1	1 0
"	3. C. Sheather	...	1	1 0
"	7. Wm. Bower	...	1	1 0
"	7. G. Cave	...	0	10 6
"	7. J. J. & J. Freeman	...	1	11 6
"	7. W. T. Peacock	...	1	1 0
"	7. Sir F. Fitzwygram	...	1	0 0
"	7. G. Oliver	...	1	1 0
"	7. G. Newsome	...	0	10 6
"	7. Hy. Thompson	...	1	1 0
"	7. A. H. Santy	...	1	1 0
"	9. F. G. Sampson	...	1	1 0
"	9. T. G. Chesterman	...	1	1 0
"	9. R. C. Edwards	...	0	10 0
"	9. T. W. Wragg	...	1	1 0
"	9. T. Gregory	...	0	10 6
"	11. R. Cox	...	1	1 0
"	11. E. Meek	...	1	1 0
"	12. J. D. Overed	...	0	10 6
"	15. G. Warnaby	...	0	10 6
"	15. H. S. Withers	...	1	1 0
"	16. Wm. Whittle	...	0	10 6
"	16. Hy. J. Cartwright & Son	...	2	2 0
"	16. C. Morgan	...	1	1 0
"	17. Thos. Collins	...	0	10 6
"	17. F. T. Stanley	...	1	1 0
"	18. R. C. Trigg	...	1	1 0
"	18. Thos. Barker	...	1	1 0
"	18. T. E. Angers	...	1	1 0
"	19. J. Brizzell	...	1	1 0
"	19. F. Danby	...	0	10 6
"	19. E. Woodger	...	1	1 0
"	19. T. D. Broad	...	1	1 0
"	21. C. Crowhurst	...	0	10 6

		£	s.	d.
Jan.	21. Rd. Roberts	...	1	1 0
"	26. Hy. Olver	...	0	10 6
"	26. E. Beddard	...	1	1 0
"	26. H. Blunt	...	1	1 0
"	26. A. Over	...	0	10 6
"	26. H. W. Caton	...	1	1 0
"	26. J. B. Taylor	...	1	1 0
"	26. O. J. Hill	...	1	1 0
"	26. H. M. Stanley	...	1	1 0
"	26. F. Blakeway	...	1	1 0
"	26. Capt. B. H. Russell	...	0	10 6
"	26. H. J. Goodall	...	1	1 0
"	26. S. H. Withers	...	1	1 0
"	30. E. H. Leach	...	0	10 6
"	30. H. Hogben	...	0	10 6
"	30. W. A. Field	...	0	10 6
Feb.	2. H. T. Batt & Son	...	2	2 0
"	2. Wm. Cawthorn	...	0	10 6
"	2. J. Scrivens	...	0	10 6
"	2. S. Locke	...	1	1 0
"	2. M. Pratt	...	1	10 0
"	2. Wm. Broughton	...	0	10 6
"	2. J. Bale	...	0	10 6
"	2. Parline Walker	...	0	10 6
"	2. J. H. Ferguson	...	0	10 6
"	2. Professor Williams	...	1	1 0
"	2. Peter Walker	...	0	10 6
"	2. Philip Deighton	...	0	10 6
"	5. Edwin Faulkner	...	1	1 0
"	5. G. H. & J. Pyatt	...	1	1 0
"	5. H. R. Perrins	...	1	1 0
"	5. J. Woodger	...	1	1 0
"	7. J. B. Wolstenholme	...	1	1 0
"	11. T. D. Lambert	...	1	1 0
"	11. T. Aubery	...	0	10 6
"	11. C. Moir	...	0	10 6
"	24. J. W. Anderton	...	0	10 6
March	2. J. S. Carter	...	0	10 6
"	3. Thos. Secker	...	0	10 6
"	7. Thos. Greaves	...	1	1 0
"	7. G. Morgan	...	1	1 0
"	7. A. Bains	...	1	1 0
"	8. C. W. Elam	...	1	1 0
"	10. Thos. Briggs	...	2	2 0
"	11. Peter Taylor & Son	...	2	2 0
				<u>£131 13 6</u>

The Veterinary Mutual Defence Fund, 1884.

	CASH RECEIVED.	£	s.	d.
Balance in Bank, March 9th, 1883	...	103	2	10
Subscriptions from 9th March, 1883, to 11th March, 1884..	...	131	13	6
Bank Interest, June 23rd, 1883	...	2	14	9
" " December 24th, 1883	...	1	3	7
				<u>£238 14 8</u>

	CASH PAID.	£	s.	d.
Balance this day in Bank	...	230	11	2
Amount overpaid into Bank by Treasurer at last Balance	...	6	8	0
Balance in hand	...	1	15	6
				<u>£238 14 8</u>

March 11th, 1884.

Audited and found correct,
JOHN B. WOLSTENHOLME.
THOMAS GREAVES, *Hon. Treasurer.*

The National Veterinary Benevolent Fund, 1884.

1883.	CASH RECEIVED.	£	s.	d.
Invested in Birkenhead Docks	..	1,300	0	0
" " " " " "	..	600	0	0
Cash in Bank, March 9th, 1883	..	5	19	11
Bank Interest, June 23rd, 1883	..	1	0	7
Mersey Dock Coupons, July 10th, 1883	..	25	7	6
Subscriptions, July 24th, 1883	..	6	1	0
Mersey Dock Coupons, October 1st, 1883	..	12	11	6
Bank Interest, December 24th, 1883	..	0	5	0
Mersey Dock Coupons, January 11th, 1884	..	25	9	2
Subscriptions, January 10th, 1884	..	1	0	0
		1,977	14	8
Cash overpaid into Bank	..	3	6	2½
		£1,981	0	10½

1883.	CASH PAID.	£	s.	d.
August 14th.—Cash to the widow and children of the late Mr. Alfred Rushall	..	5	0	0
August 24th.—New Receipt Book	..	0	6	6
September 8th.—Brown's two orphan children	..	10	0	0
December 31st.—Wrappers for Circulars	..	0	11	4
1884.				
January 7th.—Wrappers for Circulars	..	0	5	8½
January 26th.—The widow and children of the late Mr. Alfred Rushall	..	5	0	0
March 5th.—Do., do.	..	5	0	0
" 9th.—Secretary's Expenses, Printing, Postages, etc.	..	2	2	8
March 9th.—Dock Bonds	..	1,900	0	0
" " Cash in Bank this day	..	52	14	8
		£1,981	0	10½

March 11th, 1884.

Audited and found correct,
 JOHN B. WOLSTENHOLME.
 THOMAS GREAVES, *Hon. Treasurer.*

Obituary.

The Secretary of the Royal College of Veterinary Surgeons reports the death of Mr. Samuel Gill, Hastings, who graduated in 1870.

The death is announced, on the 24th March, at 160, Brech Road, Liverpool, of Mr. Andrew Galbraith Ross, Vet. Surgeon 1st class, late Scots Greys; aged forty-four.

Army Veterinary Department.

By command of Her Majesty, His Royal Highness the Prince of Wales held a *levée* at St. James's Palace on March 18th, when Inspecting Veterinary Surgeon James D. Lambert was presented by General Lord Wolseley, Adjutant-General to the Forces.

At the battle with the Soudanese Arabs, fought at El Teb on February 29th, Veterinary Surgeon Beech was wounded. Veterinary Surgeons Clayton, Thomson, and Beech are serving with the troops in the Soudan.

The following veterinary officers have proceeded to India for service in that country since the commencement of the trooping season:—Cooper, Ringe, Rayment, Matthews, Ewing, Blenkinsop, Appleton (A. F.), Pottinger, Hazleton, Twiss, Braddell, Raymond, Waddell.

The following officers having completed their tour of Indian service, return to the Home Establishment:—Appleton (W.), Webb, Queripél, Skoulding, Plomley, Burton, Davies, Gillespie, Bostock.

Veterinary Surgeons Dawson and Powell are home on sick leave from India. Veterinary Surgeons Bennett and Smith are serving in Lower Egypt, and Duck and Rutherford in South Africa.

Parliamentary Intelligence.*House of Commons, March 7th.***ARMY VETERINARY DEPARTMENT AND TRANSPORT AND COMMISSARIAT SERVICES.**

ON the motion for going into Committee of Supply,

Dr. CAMERON rose to call attention to the cruelty, waste of money, and danger to British arms in recent campaigns caused by the defective organization of the Indian and British Transport and Commissariat services, and to move, "That a Select Committee be appointed to inquire into the working of the Commissariat and Transport services of the British and Indian armies in the recent Egyptian and Afghan campaigns, and to consider what changes, if any, are required to secure increased efficiency in those services." He said that there never was a war which more completely proved the incapacity of the Transport and Commissariat Departments than that in which we were now engaged. Dr. M'Dowall, now engaged with our forces, had stated that the Transport was so insufficient that it would break down if casualties happened even to 300 of our men. If that were so, it was obvious that the most glaring faults of the last campaign were being repeated. At that time mules were being purchased, but not by the Transport Department, although the Commissary-General was responsible for the inspection of the transport service. The mules were purchased and shipped in such an unskilful manner that out of 1,100 two-thirds were unfit for work when landed. They were bought contrary to the advice of the veterinary surgeon who was sent out with the officer whose duty it was to purchase them—an officer who did not belong to the Transport and Commissary Department—and on the voyage, which lasted nine days, from Smyrna to Ismailia they had nothing but chopped straw to feed upon. Some of the mules were shot or sold, and the rest were got to work in a week or fortnight after they were landed, so that at the precise juncture when their services were most needed they were not to be had. (Hear, hear.) The animals were not got to work until the war was almost over. A large quantity of hay was landed in such a musty condition that it had to be used for bedding. The Commissary-General was not consulted about the hay any more than he was with regard to the mules, and the handling of the stores on the ships was left entirely to the Admiralty. It was the entire system that was at fault. What he wanted was an independent inquiry into the system of "divided responsibility and no one to blame." The question he had to ask was, had any of the recommendations based upon the experience they had had in Egypt been carried into effect, or was the Commissariat and Transport Department in the same unworkable condition? (Hear, hear.) If he obtained a committee, he was prepared to prove every fact he had stated. (Hear, hear.) He would now come to the Afghan war. *The Times* Correspondent at Simla, in a telegram dated June, 1879, stated that the force for some time was so helpless, owing to the want of transport, that it could not have advanced to Cabul. In March of the same year, an officer of high rank spoke of the delay caused by the great mortality among the transport animals; and Mr. Charles Williams, an experienced war correspondent, stated that in consequence of the impossibility of bringing up food, the native troops had to be put on half rations, and that 700 camels died in a week. Mr. Duke, in his work on the Afghan campaign, stated that in the Kurum Pass the great difficulty was want of transport; and the correspondents he had quoted said that over and over again the columns could not move for want of transport. If camels were to be used at all it was only strong and adult camels that could be relied upon; but most of the camels

were incapacitated by youth or age ; and ponies that were barely able to drag themselves along were all bought up. Putting aside the horrible cruelty and the direct loss, the indirect loss would be felt for many years in agricultural districts. It was stated that in the opinion of the civil authorities in the first three months one-third of the available transport was used up. While there was elaborate veterinary organization among the British forces, it was wanting among the Indian troops. An officer in high command wrote that the losses in camels at the front were not surprising, caused by the absence of veterinary officers ; he had asked for them, but Government would not sanction the expense ; the result was that thousands were being wasted through rascality and ignorance ; in one case out of seventy camels, twenty-six were but two years old, and others were either suckling calves or were otherwise in a condition that rendered them unfit for work. The transport officers were chiefly taken from infantry regiments, and were ignorant of all subjects appertaining to animals ; and there was not a single veterinary surgeon to look after thousands of bullocks, mules, etc. His informant added :—" I have reported all this officially, and there will be investigation, but the Government is sure to burke the whole thing." Of course, the facts had been burked, but he wanted to bring them to light for the sake of the efficiency of the service in the future, because nothing was being done in India to prevent a recurrence of this scandal. Horrible and incredible as the statements made were, he believed they would all be substantiated before a committee. In the Kurum column, out of 6,000 animals 40 per cent. were reported as being either too young or too old, or in other respects incapable of doing the work of the campaign, and it was a sheer waste of public money to buy them. Everywhere there were the same complaints of the large proportion of unfit animals that were bought for the transport service. In one instance out of 400 ponies 395 were deemed utterly unfit for the work. When animals were bought under proper veterinary supervision the fact was apparent in the rejection of no more than 5 per cent. ; but the Indian authorities treated such supervision with supreme contempt. The idea seemed to be that the veterinary surgeons would select only first-class animals, and that all that was required was a number of animals that would carry their loads a certain distance. Accordingly, purchases were made without discrimination, animals were sent to the front, many of them died miserably on the way, and we lost not only the sum spent in purchasing them, but the value of their loads as well. This involved not only cruelty to the animals, but the deception of the General who trusted to them. There was no improvement as the war went on, and things were as bad at the end as at the beginning. It was estimated that we lost 60,000 camels and 30,000 other baggage animals, and one-half of the loss was caused by the fact that they were utterly unfit for the work when they were bought. In camels alone the loss from this cause probably exceeded half a million ; and directly and indirectly the loss must have been many times that amount. The cruelty and suffering were everywhere described as atrocious. The animals were principally in the charge of ignorant natives, who knew nothing of their diseases and who were careless to a degree. Diseases were rife among them, and no precautions were taken to prevent the spread of contagious diseases. Every elephant in the Kurum column got the Hoof-and-mouth Disease, and in some cases the soles of their feet slipped off, carrying the nails with them. No provision was made for shoeing animals ; there were no shoes, no nails, no workmen. No care was taken to prevent sore backs ; there were no medicines, dressings, or instruments. It was with difficulty veterinary surgeons could get canvas to put over wounds to prevent them festering. The sore backs sickened experienced veterinary surgeons ; the ribs were laid bare and the flesh was mortifying while the asses were being driven, and when they were shot and fell the

tissues of the back gave way. A gentleman counted 300 camels lying on one side of the Bolan Pass and 200 on the other ; and in some instances before they were dead the ravens were picking out their eyes. The same mismanagement existed from the beginning to the end of the war, and it was repeated in the Egyptian war. Since the lesson in Afghanistan it would hardly be credited that the Indian Government, which was not usually very economical, had been guilty of cutting down their veterinary staff by one-third. He did not now propose to offer any suggestions as to how the state of things that he had described should be remedied. He could quote a number of what appeared to be common-sense suggestions, but what above all was required was a knowledge of the facts and of the extent of the evil. (Hear, hear.) If the committee he asked for was appointed, it would have no difficulty in finding a number of competent men to make suggestions ; but he would much rather trust to the common sense of a committee of that House for the reform of such evils as he had that evening endeavoured to lay bare, than to the expert consideration of a departmental committee. The hon. member concluded by moving his resolution.

Mr. PULESTON, in seconding the motion, remarked that his hon. friend the member for Glasgow deserved thanks for bringing forward a matter of great importance and practical utility and one vitally concerning the interests of the nation. If but one quarter of the statements and statistics given to the House by his hon. friend were true, even then it was difficult to conceive how the Government should hesitate for a moment to grant the committee now asked for. The country would regard it as extraordinary if the proposed inquiry were withheld, in face of the startling and shocking facts presented to the House by his hon. friend, who had stated on his own responsibility that he would bring before the committee abundant testimony to the correctness of every statement he had made. His hon. friend had referred to the war in Afghanistan. In that case Bombay was forced to supply camels and other baggage animals, and had to do it in a very haphazard sort of way, scouring the whole of Scinde for everything. Within three or four months after that the whole of the beasts of burden in Scinde were destroyed. We had devoted ourselves to purchasing camels which were too young and which were not animals suited for the purposes of frontier war. Not only had this loss of money been knowingly and willingly incurred, but it had been an utterly useless sacrifice ; the public interest had not been advanced by the expenditure ; on the contrary, human life would absolutely have been saved by the practice of economy. As regarded the supply of mules, the best thing would be for the Government to breed them in India. It might be urged against this that we should have to keep them in times of peace ; but they might be let out to the cultivators of the soil, and the Government would have them when they were in need of them. Thus the breeding of mules would entail no loss whatever on the Government ; while in times of famine it would be found of the greatest importance to have mule trains. Thus the keeping of mules would not be a luxury, as it had been described, but a source of profit. With regard to the loss of transport animals by General Stewart's column, not only had there been the danger of being deprived of means of transport, but in one case 500 dead mules lay absolutely polluting the air and water and imperilling life. In Egypt, again, he thought that we had been very fortunate in being victorious at Tel-el-Kebir, for such had been the state of affairs that we could not have remained there much longer without starvation and the difficulties of transport operating against us. As it was, the want of transport had locked the troops up here and there, not to speak of the great loss of stores incurred. Gatlings were no use unless properly horsed, but in Egypt any tagrag and bobtail out of the camp followers had been appointed to look after the horses. This question of transport and commis-

sariat was one of deep interest, not only to the Army itself, but to the country ; and he hoped that the Government would grant this Committee of Inquiry ; by so doing they would have the credit with the public at large of acting in the interests of the nation. (Hear, hear.)

Mr. CROSS said he would not discuss whether the Afghan war was a party question or not, but would first answer the hon. member for Glasgow with reference to the Afghan campaign. The facts of the case were much as they had been brought to the attention of the House. After the first Afghan campaign the transport material had been dispersed, and when the necessity arose again, there had been very little transport on hand, and it had had to be found very rapidly. He would quote a report made by Sir M. Kennedy on this subject. Sir M. Kennedy said :—

“With regard to the Commissariat and Transport, this state of things was very undesirable ; the disadvantages it involved were not unrecognized or under-estimated ; but it could not always be avoided if the operations were to be carried through at all. It was a race against time. The railways poured troops and supplies to the front, and it was absolutely necessary for political, military, and even for economical purposes to strike quickly. And nothing was ready at the commencement.”

Dr. CAMERON rose to a point of order. The hon. member having quoted a report, he would ask whether it should not be laid upon the table.

The SPEAKER : The hon. member, having quoted from it, no doubt will lay the report on the table.

Mr. CROSS said that he intended to do so. The report proceeded to state :—

“The amount of material that these considerable demands from first to last involved for forces, that numbered in the aggregate 42,600 fighting men, 40,000 followers, and 72,000 animals, was very great, even when it is taken into consideration that the troops would necessarily depend to some considerable extent on the natural produce of the country, and, like all armies operating in advance of a distant base, would be compelled to draw bulky articles, such as grain and forage, from the districts occupied. There was, however, some occasional difficulty in obtaining local supplies, but it never lasted long or pressed very heavily, and the troops and followers never for a day suffered any want or inconvenience, although animals were occasionally on short rations.”

That was the report of Sir M. Kennedy, referring to the second period of the Aghan war. In the first period it became necessary to arrange the transport very quickly, and troops had to be moved very quickly to the front. Tens of thousands of store and baggage animals, camels, mules, ponies, and bullocks, everything that could carry a shot or a tent pole, had to be collected on the instant, as it were ; the demands were so imperative and the emergency so pressing that it was only natural that all kinds of animals should be swept into the net, and from the fact that efficient animals could not be had inefficient ones had to be accepted by the transport officers, even though it must have been known that a large number of them would fail. It should be remembered that when Sir Louis Cavagnari's mission was peacefully settled at Cabul the transport extra service used in the previous advance had been scattered and practically broken up, and on the renewal of the war its reorganization was placed in the hands of Sir M. Kennedy. From a report of Sir M. Kennedy on the supply and transport arrangements during the campaign in northern Afghanistan and the Kurum Valley in 1879-80, it is clear that “we had been caught in a state of unreadiness and everything had to be improvised.” We were evidently without experienced transport officers and transport service. It was arranged to separate transport from commissariat—especially in the field—beyond the basis, and to place it, giving it a sepa-

rate organization, more closely under the general officers in command. This report of Sir M. Kennedy on the deficiency of transport was, perhaps, one of the most melancholy pieces of military reading ever published. As the war went on, Sir M. Kennedy seemed to have overcome all difficulty. Simultaneously with General Roberts's march from Cabul to Candahar, General Stewart returned to India, and on these two occasions the transport seemed to have been everything that could be desired. General Roberts marched from Cabul to Candahar by Ghazni, 10,000 men, 8,000 followers, and 8,400 transport animals. He traversed 313 miles in twenty-two days, fourteen and a half miles a day, and out of 8,383 transport animals there were only 1,050 casualties. General Stewart marched from Cabul to Peshawur with 9,559 transport animals, and there were only 1,023 casualties. The losses and troubles of the transport, especially during the second period of the Afghan war, had caused the Government of India to organize a regular Transport Department, based on a plan the result of experience gained during the second period, and the principle on which this plan was based was that a certain proportion of the Indian armies should be equipped with one half regimental transport. This force would embrace 46,000 men, of whom 24,000 would be stationed on the frontier. This transport would be distributed over a larger number of regiments than it would suffice completely to mobilize. This was done with the view to familiarize a considerable number of troops with the management of transport. Half this number, or about 23,000 men, could be put into the field within their respective districts, fully equipped with transport on the Cabul scale, without requiring any additional carriage. For this transport it was not proposed to employ officers of the British veterinary establishment; an experience of more than twenty-five years on the frontier had proved that regiments could be maintained in a state of perfect mobility, taking charge of their own transport establishment, and keeping it thoroughly efficient, without European advice, and there seemed to be no reason to question that similar results would attend similar means on a larger scale. To increase the number and efficiency of the Salootree class, the Government of India had recently established in Bombay, Bengal, the Punjab, and Burmah veterinary colleges, presided over by three eminent veterinary surgeons. Last year the Government of India proposed a reduction of the British veterinary establishment in India from seventy-three to forty-nine. Their reasons were the intended introduction for the horses of the British troops of the station, field, or present hospital system, which obtains for the men. Under this system the Government of India were satisfied that, while a smaller number of officers will be required, greater efficiency will be secured. The question of the establishment to be ultimately maintained and its organization had not yet been settled. No reduction had yet been made, and meanwhile the actual number of veterinary surgeons of the British establishment now employed in India was sixty-four—four administrative officers—namely, two Bengal, one Madras, and one Bombay. There were ten on staff duties—namely, six Bengal, three Madras, one Bombay, and forty-eight on station and regimental work—namely, twenty-six Bengal, ten Madras, seven Bombay, and there were two officers on furlough. This was fifteen in excess of the number proposed by the Government of India. The total number of horses with the British troops in India was 10,837 (including 1,001 mules belonging to British mountain batteries). If this number of animals was divided among the forty-eight veterinary officers engaged in station or regimental work, it gave about 225 animals per officer. The four regiments of Madras Native Cavalry were in charge of their veterinary officers, and they had 1,273 horses; so these gentlemen had now, on an average, about 300 animals each. The Bengal and Bombay Cavalry numbered 21,477, and it might

perhaps be that the man being owner of his horse, and therefore having a personal interest in its health, looked well after it. There was no doubt of the thorough efficiency of the Indian Cavalry; that efficiency was, he believed, clearly demonstrated in the Egyptian campaign, and though the veterinary hospitals of the Bombay and Bengal Native Cavalry never had been under British veterinary care, that was not supposed to have rendered them less efficient or economical, and, as at present advised, the Government of India had no intention of increasing the number of European veterinary officers in charge. The hon. member proposed to inquire not only into what had taken place in the Egyptian, but in the Afghan campaign also. The Indian officers had taken the Afghan campaign very much to heart, and therefore it was quite unnecessary to enter into that subject; indeed, he did not see how any inquiry in this country would help the Indian Government, while there was in India at the present moment a number of officers fully competent to manage the affairs of the army, and who had taken this report and examined it thoroughly, and come to certain conclusions upon it. (Hear, hear.)

Mr. BRAND said it was not so easy to meet the motion as the speech of the hon. member for Glasgow, in that the latter was replete with assertions based mainly on hearsay and having very little in the shape of fact to support them. As far as the Egyptian campaign was concerned, a committee presided over by Lord Morley had reported that there had been plenty of all things necessary for the health and comfort of the troops. After reading that report, he had come to the conclusion that the sufferings of the troops were those which were inseparable from active service in a hot climate. With regard to the conduct of the Veterinary Department, there was no doubt that the horses and mules had suffered greatly from the heat, the flies, and the sand, as well as from the want of water, while they had been sent on active service before they had had time to recover from their long sea voyage. But what, he would ask, would have been the condition of those animals if the Veterinary Department had not been thoroughly efficient, and if its members had not done their duty in a most admirable manner? (Hear, hear.) At the time when the cattle were landed several cases of Rinderpest broke out among them, but owing to the precautions of the principal veterinary surgeon, who had them inspected and the diseased animals slaughtered, the disease was prevented from spreading. The Glanders having broken out among one troop of the Bengal Cavalry, the principal veterinary surgeon ordered the infected animals to be destroyed and the remainder of the troop isolated, and thus this disease also was prevented from spreading. (Hear, hear.) It must, therefore, be taken that the Veterinary Department in Egypt was thoroughly well organized. The Government did not admit that there was any necessity for the proposed inquiry, but still some good might possibly arise from having the statements of the hon. gentleman verified or otherwise as the case might be. Therefore, on the understanding that this inquiry was to be confined entirely to the operations in the recent Egyptian campaign, and that it was also to be confined to the working of the commissariat and transport service—for the medical arrangements had already been inquired into by the committee over which Lord Morley presided—the Secretary of State for War would not oppose the motion. (Hear.)

The MARQUIS of HARTINGTON said it was desired that the work of the committee should be strictly limited to the two subjects mentioned, because it was thought the inquiry should be made as to definite and distinct objects, and should not wander over the whole ground of the Egyptian expedition. He did not deny that some good might come from an inquiry directed to the object of obtaining results from experience of the working of the system of our supply and transport in the field. The Medical Transport,

of course, formed a part of the transport of the Army, and could not be separated from it. He would only say, then, that in granting this committee he hoped it would be understood that the Government did not assent to a great many statements that had been made, and that still less did they admit that anything whatever had been proved as to any shortcomings on the part of individuals. All that was admitted was that perhaps the system might be improved. He thought the most convenient course on this occasion would be for the hon. gentleman to withdraw the motion he had made and to move it in the amended form.

Dr. CAMERON assented, and his original motion having been by leave withdrawn, the following motion was agreed to :—"That a Select Committee be appointed to inquire into the working of the Commissariat and Transport Services of the British Army in the recent campaign, and to consider what changes, if any, are required for increasing the efficiency of those services."

Jurisprudence.

A HORSE WARRANTY CASE.

(Continued from page 223.)

Mr. Dugdale then addressed the jury, and said it was a peculiar action, and he doubted whether there had been one like it before. The issue was, did the defendant use ordinary skill and care in his examination of the horse? It was not a question of mistaken judgment, but whether he had not brought reasonable skill to the practice of his profession. He should call some of the most eminent veterinary surgeons to speak to the condition of the horse. The defendant first became acquainted with this horse in July, and previous to the examination in question he treated and cured the horse of Thrush. Defendant was never told for whom the horse was examined, and it was a case of complete employment by Mr. Lutwyche. There was not a tittle of evidence to show that any contract existed between Barling and Walker. A contract required the consent of both parties. In this case no such evidence existed. Mr. Barling believed then, and now, that the horse was sound when he gave the certificate. Even one of the plaintiff's professional witnesses said the disease appeared to have existed only three or four months.—The defence set up was that the horse was apparently sound on the day the certificate was made, and that in his examination defendant acted with ordinary skill and care. It was also objected that defendant was responsible only to Mr. Lutwyche, and not to plaintiff, of whom he knew nothing at the time; and that plaintiff had himself an opportunity of seeing if the horse was at all lame. Several experienced veterinary surgeons were examined, who supported the defendant's contention that the horse might have been sound at the time of the examination, and some of them declared that the horse was at present free from navicular disease.—Mr. G. L. Barling said he examined the horse on the 5th October. He was very careful in his examination; watched the horse in the stable. There was no "pointing." Had him trotted and ridden on pavement; then galloped in the field, and rode himself on stones; then put him into stable half-an-hour; again trotted on pavement, and he went quite sound. Examination occupied about one hour.—The head groom and under groom of Mr. Lutwyche gave evidence that they had had the horse under their care from July to 6th October. The horse had never been blistered during that time.

In August he had a thrush in off frog, but got quite well in a fortnight. They had ridden him two hours a day exercise up to the day he went away, and he went quite sound.—Mr. Greaves, Manchester, late President of the Royal College of Veterinary Surgeons, and now Fellow of that College, been fifty years in practice, said he examined the above horse on the 2nd February. The horse did not “point ;” no heat in his feet ; no alteration of structure ; one foot not smaller than the other ; had him trotted and ridden on hard road to and fro a dozen times at least ; watched the horse’s action with the greatest attention, knowing it was a case in dispute, but failed to see any lameness. Had the horse well galloped for one-and-a-half to two miles on field, then put into stable for half-an-hour ; brought out and trotted on hard road. He went better than before, and quite sound. He had a little peculiarity in his manner of going, which some might take for lameness, but he was satisfied it was natural action, and not lameness. His examination lasted over one hour. No chronic or recent disease in his feet.—Mr. Taylor, Manchester, Fellow of the Royal College of Veterinary Surgeons, and Member of Council, examined the above horse on the 2nd February. He did not “point ;” no alteration of structure ; one foot not smaller than the other ; a practised eye could see it at a glance. Had him trotted and ridden on hard road ; well galloped in field ; put into stable half-an-hour ; again trotted on hard ground. He trotted better than before he was galloped. This could not be so if there had been any defect in navicular. There was no evidence whatever of chronic disease ; no coffin-joint disease ; no navicular disease. In his opinion he was slightly lame on off-fore foot, temporary congestion of laminae from standing, and not having had his feet pared for four months.—Professor Pritchard said he had been a teacher in the Royal Veterinary College seventeen years. He had examined this horse, and found him quite sound in his fore feet ; no evidence whatever of any chronic disease : no navicular disease ; no coffin-joint disease ; if put under proper treatment would be well in a fortnight ; at the present moment he is lame on near-fore foot, an injury on seat of splint.—Mr. W. C. Barling examined the said horse ; found no evidence whatever of chronic disease in his feet ; no coffin-joint disease, or navicular disease, but slight lameness of off-fore foot from temporary cause.—At the conclusion of defendant’s case, the Judge asked the jury if they wanted to see the horse, which was in the County Hotel stables, expressing the opinion that they had better judge the case upon the evidence. The jury, however, elected to see the animal, and, on their returning, after the learned counsel had summed up, his Lordship asked them two questions—1st, was defendant employed by plaintiff or Mr. Lutwyche ? and 2nd, if by plaintiff, was he guilty of negligence in giving the certificate complained of ?—After being absent from court about twenty minutes, the Jury returned, and asked if the verdict of the majority would be taken.—Counsel on both sides said “No ;” and the Hon. E. K. W. Coke, foreman, said he was instructed to say that they had found in the affirmative on the first question, but with reference to the second they could come to no agreement.—His Lordship : It is hours too early to say that.—The jury then again retired, and after another hour’s deliberation found the defendant was negligent in giving the certificate, but assessed the damages at one farthing.—Mr. Graham applied for costs, and his Lordship, in determining to hold over the question for consideration, unless some arrangement was come to, said there was certain to be a new trial, and added, It is a great pity. It is an abortive trial, to a certainty : and I believe it is partly due to the jury having seen the horse.—Subsequently counsel on both sides applied to the Judge to give them the costs, a question which his Lordship had held over.—The Judge said he could not look at the verdict as anything but a mere compromise, and it seemed to him to be in vain to attempt to

regulate the costs.—Counsel on each side said that if he did not obtain costs a new trial would be asked for, and the Judge then said he would let the matter alone.—Mr. Etherington Smith, on behalf of the defendant, then asked for an order for the detention of the horse by a third party, but his Lordship said he did not think that anything that might happen to the horse would be likely to assist the jury on a future occasion. It would only lead to a fresh difficulty, and it was pretty well agreed the animal was worth £25 now. Defendant could offer that sum for it.—Mr. E. Smith: We have done that; but they won't take it.—The Judge: That will be a strong fact for you on a new trial. I can't interfere; I must leave the matter where it stands. There must be a verdict for plaintiff for one farthing; nothing to be said about costs

Notes and News.

CATS AND CHOLERA.—In two places in the Deccan, Ahmednuggur in 1882 and Siroor in 1883, at a time when Cholera was prevalent, an extraordinary mortality was noticed among cats. The symptoms in both cases were similar; the animals were seized with sickness, which ended in swelling of the throat, producing asphyxia and death within one or two days after the symptoms first declared themselves. At Ahmednuggur in 1882, about 750 cats died in the first three weeks of July; in June last year 300 cats are reported to have died at Siroor. Mr. Lamb, veterinary surgeon, from a description of the symptoms, pronounced the disease as probably Anthrax. A series of official papers on the subject has been published, and the Government have directed that, in case of any similar epidemic appearing among cats in future, careful observations shall be made with a view to determining the relation of the disease to Cholera. The Siroor epidemic commenced a week after Cholera had broken out, and ceased shortly after the Cholera disappeared.

TRICHINOSIS IN GERMANY.—The recent outbreak of Trichinosis in several villages of the Prussian province of Saxony (says the Berlin correspondent of *The Daily News*) has not failed to attract general attention, a special commission having even been deputed by the French Government to study the epidemic on the spot. Dr. Stammer, a physician residing at the village of Emersleben, in the centre of the infected region, has just published the first detailed accounts in a scientific journal, from which I take the most interesting passages. Emersleben is situated about four miles from the district capital Halberstadt, and numbers about 760 inhabitants. For many years it has been the custom in this neighbourhood to use minced but uncooked pork as food in great quantities, the field labourers especially being accustomed to eat this meat spread on bread for their lunch. This was again the case during the past summer. On the 14th and 15th of September last a large quantity of minced, uncooked pork had been consumed, the entire supply coming from the same butcher, at Emersleben. The first symptoms of the epidemic already appeared among some persons on the same day. The first patients were treated on September 20th, and the last on October 15th. The total number was 257, of whom fifty, or about twenty per cent., died. The greatest number of deaths took place during the fifth and sixth weeks, when ten and eleven succumbed, respectively. The ages of the patients whose cases resulted fatally, ranged from twelve to seventy-six. The sufferers also included

many children, the youngest of whom had not yet completed its second year, but they all escaped with their lives, excepting one boy of twelve. Those persons who had eaten the pork after cooking or frying, suffered for from two to three weeks from stiffness of the limbs and some swelling under the eyes, but none were obliged to keep their beds. All persons, however, who had consumed more than a quarter of a pound of the meat have died. Not one of the remedies employed by the physicians had the slightest effect.

ARAB ANIMAL DOCTORING.—The Arab style of doctoring is rather rough. If a horse or other animal has inflammation, they hobble the legs and throw it upon the ground, after which operation a number of men kick it in the belly until it is relieved by death. . . . Young dogs, as a cure for distemper, are thrown from the roof of a house to the ground, a height of about ten feet. One night we were sitting at dinner, when we suddenly heard a great noise, and the air was illumined by the blaze of a hut on fire. In the midst of the tumult I heard the unmistakable cries of dogs, and thinking that they were unable to escape from the fire, I ran towards the spot. As I approached, first one and then another dog ran screaming from the flames, until a regular pack of about twenty scorched animals appeared in quick succession, all half mad with fright and fire. I was informed that Hydrophobia was very prevalent in the country, and that the certain preventive from that frightful malady was to make all the dogs of the village pass through the fire. Accordingly, an old hut had been filled with straw, and fired, after which each dog was brought by its owner, and thrown into the flames.—*Baker's Nile Tributaries of Abyssinia.*

PONIES LIVING WITHOUT FOOD FOR TWENTY-FIVE DAYS.—A somewhat remarkable example of the great length of time horses can exist without food was brought to light at a coal pit near Airdrie recently. At one of the pits belonging to the Rawyards Coal Company, a large amount of water had accumulated during three weeks, and owing to one of the "roads" of communication being blocked in consequence of choke damp, no access had been had all that time to the four ponies which were left in the workings. The ponies had no food near them, but they were able to reach the water. On the men getting into the workings the animals were all discovered to be alive. Mr. Brownlee, V. S., Coatbridge, examined the ponies, and found them to be apparently little the worse for their long fast of precisely twenty-five days.

EDINBURGH NEW VETERINARY COLLEGE.—The students attending the classes of the New Veterinary College, Leith Walk, recently presented Professor Williams, Principal of the College, with a clock and an illuminated address. Mr. Haslam presided, and, in making the presentation, he expressed the admiration of the students of Principal Williams's great work—the establishment of the New Veterinary College in the midst of great competition. He also expressed their admiration of his personal character, his perseverance, energy, professional skill, and kindness. They looked upon him as their champion, the defender of the students' rights, and felt grateful to him for having reformed the treatment of respiratory diseases. The clock had been erected in the College yard, and the illuminated address bore that it was presented as a recognition of the enterprise and energy with which Professor Williams had forwarded the interest of the profession, and to show their respect and appreciation of his ability as a teacher. Principal Williams replied in very feeling terms.

BANQUET TO PROFESSOR BOULEY.—On the occasion of the election of M. Bouley, Inspector of the Veterinary Schools of France, to the high position of Vice-President of the Academy of Sciences, a grand banquet was

given in Paris on January 26th. M. Pasteur was president, and a very large number (more than 150) of civil and military veterinary surgeons was present, as well as the staff of the Alfort Veterinary School. The name of Professor Nocard, of that school, was also associated with that of Bouley, as a token of admiration for the part he had taken in the work of the Cholera Commission in Egypt. In every way the banquet appears to have been a success, and the speeches delivered by Pasteur, Bouley, Renault, Saunier, Gayot, Capot, Weber, and others, show the great enthusiasm that prevails among our French colleagues in professional matters, and especially marks their affection, almost veneration, for the distinguished *savant* and teacher whom they had met to honour, and who had been similarly fêted sixteen years ago, on his election as a member of the Academy of Sciences. It has been decided that a medal, commemorative of the event, is to be struck.

Correspondence.

UNSOLEING FOR RINGBONE AND SIDEBONE.

SIR,—In the last number of your journal Mr. Greaves, of Manchester, replied to my letter, published in the previous issue, relating to a case of alleged cruelty, heard at Cheadle, in which he gave evidence for the defence. While desiring not to engage in a controversy with an expert on matters which only veterinarians are competent to discuss, I am constrained to beg your indulgence while I venture to correct a few mistakes made by Mr. Greaves; in doing which I will take care not to invade your professional lines, and endeavour to confine myself to matters that I understand.

Mr. Greaves is good enough to compliment me by saying he is "willing to put the most charitable construction possible" on my motives and objects. No doubt when sitting down to write his letter he intended to give me credit for honesty of purpose. It was a mere slip of his pen when he wrote that my "unblushing contortions" and "exceedingly unfair and untruthful criticism" are "nothing less than an insult and impertinence," and make him wonder at "my audacity and effrontery." If these strong expressions strike the reader as inconsistent with good feeling and good taste, it should be remembered, which I certainly will not overlook, that Mr. Greaves regarded himself as injured by my previous letter. I, at all events, will not retaliate. On the contrary, notwithstanding this discussion, I shall shake Mr. Greaves by the hand when I meet him as heartily as I have done before.

Mr. Walters had performed the painful operation known as tearing off the sole of a horse's foot with pincers, really and professedly to cure Sidebone. The Society was advised by five leading veterinarians that the operation for such purpose was unnecessary, absurd, and cruel. We, therefore, appeared at Cheadle to establish that contention. Mr. Greaves appeared, as we supposed, in opposition to that contention. The newspapers stated this, the magistrates took the same view, and we certainly could take no other. It now appears from a fair reading of Mr. Greaves' letter that he did not go to Cheadle to oppose the Society, nor to justify an operation alleged to be cruel, but to defend "an old and highly-respected brother practitioner." I apologise for not seeing the distinction. If not for purpose stated above, his attendance was irrelevant; in fact, more than irrelevant—if not to show that "unsoleing" cures Sidebone, it was idle. Assuredly, then, his

remarks about giving evidence that unsoleing for Canker is a good remedy are beside the question, seeing that the operation for such a purpose was not contested by the prosecution. Besides, in his evidence, as entered on the minutes of the Court, a copy of which I have obtained from the Clerk, he stated: "I think this operation might be beneficial *for Sidebone* I would draw [the sole] *for Sidebone*;" and he added that the horse in question had really been benefited [in the cure of Sidebone] by the operation of unsoleing. Surely, then, it was natural for the newspaper reporters to conclude that he regarded unsoleing as an effectual remedy for Sidebone, as stated in my letter; though he may not have said, and did not say, I now believe, the actual words attributed to him by the reporters, namely, that unsoleing is the "best known and effectual remedy" for Sidebone.

Is it not singular that Mr. Greaves, a scientific man, who had never performed the operation for Sidebone, and who had not come from Manchester to support the contention of the defence, should have let out in cross-examination that he had only "just" ascertained that the operation was a useful one—that is to say, until his arrival in Cheadle he was not aware that unsoleing is really a remedy for Sidebone. He said, "I have *just now* come to this conclusion since I have been in this neighbourhood." And how did he come to that conclusion? Why, "plain, honest, country people, unable to explain how the effects of the operation were produced on scientific principles, who could only bring the 'logic of fact' to bear on it, like the man who was born blind, whom Christ made to see," etc.—these "plain, honest, country people" told him at Cheadle that they had known cases where unsoleing had cured Sidebone; and he believed them! Has it come to this—an ex-president of the Royal College of Veterinary Surgeons learns for the first time how to cure Sidebone from "plain, honest, country people," who have not been trained at the Royal Veterinary College, who know nothing about scientific principles and scientific practice, but only "the logic of fact," as peasants understand fact? Has Mr. Greaves, in his long professional career, never met with plain, honest, country people, who have tortured animals by applying "remedies" for diseases founded on ignorance and superstition? I have had to prosecute a man who persisted in scoring the sides of cows with deep flesh wounds, into which he put saltpetre for the cure of Rinderpest; and this man not only believed the process to be a remedy, but actually made a great many other people believe it, too, by the "logic of fact." Thirty-five years ago I heard "plain, honest, country people" declare that their children, some born blind, others born deaf and dumb, others born idiots, had been entirely cured by the "laying on of hands," by Courteney (mad Tom, of Canterbury), and these plain, honest, country people not only believed these "facts" themselves, but they swore to their truth; and they perilled their own lives in defence of the prophet, when he and his disciples were surrounded by troopers.

Plain, honest, country people do not generally possess logic enough to trace causes to their effects (*a priori*), nor effects to their causes (*a posteriori*)—and this failing is seen sometimes even in persons above the rank of plain, honest, country people. Mr. Greaves's conversion at Cheadle reminds me of a story told in medical annals. A young French student, who had been articled to a London physician, visited a case of Scarlet Fever. The patient appeared to be in a dying condition, and the physician told his wife that she might give him anything that he asked for. The poor woman said, "He craves for nothing but a red herring." The physician replied, "Then in the name of Heaven give it to him." The student made a note. Two days later the patient began to recover, to the astonishment of everybody, and ultimately got well. The student made another note—red herring cures Scarlet Fever. Some years later, when practising in his own country, the

same student attended a woman suffering from the same disease. He at once prescribed a red herring, but unfortunately his patient died, when the student made another note—red herring given to men is a remedy for Scarlet Fever, but it kills when given to women affected with that disease.

This instance of misconception respecting cause and effect is no doubt a fair sample of the "logic of fact" which Mr. Greaves found among the plain, honest, country people at Cheadle, who told him that tearing off the soles from their horses' feet had cured the animals of Sidebone. Surely, Mr. Greaves, before endorsing a conclusion of uneducated people, would require proof that the horses referred to had ever suffered from Sidebone! Do such people really know enough about Sidebone to justify a scientist assuming that the premiss of their conclusion is unimpeachable? When I have asked knowing people of this class to tell me the difference between Ringbone, Sidebone, and Roundbone, instead of provoking a smile, my question has elicited a reply showing the grossest ignorance. They did know their horses were lame, but did they detect the cause correctly? The lameness might have its origin in any of several causes, and the cure might have proceeded from rest or from other cause.

Like myself, Mr. Greaves has advanced much further along the path of life than most men at our age like to acknowledge. He may therefore have forgotten some of the lessons he learnt in his student days. Among Greek studies there is a little story which he will remember, if I remind him of it, in which a wag's practical joke is related for the purpose of teaching young men the folly of jumping to conclusions, or taking things for granted, and the importance of making critical examination of the basis of a conclusion. A youth submitted to an assembly of philosophers the question—"How is it that water taken from a river, and placed in a vessel, increases one-eighth in bulk in the course of twelve hours?" The philosophers set themselves at once to discover the cause, and after deliberation, each in turn proceeded to pronounce his solution of the problem—each, save one, who arose from his seat and said, "Before coming to a conclusion, let us ascertain with certainty that it is true that water does increase in bulk, as stated in the question." Thereupon, the plain, honest, country young man hastily left the assembly, an arch leer on his face signifying plainly enough that his object had been accomplished; and thus ended the discussion. I am no scientist, but if I had been with Mr. Greaves at Cheadle, I think my natural caution would have led me to suggest to him something similar to the action proposed by the solitary Greek philosopher; namely, that before jumping to the conclusion of these plain, honest, country people, it would be wise to ascertain with certainty that they had made a correct diagnosis, even if they were capable of making one.

There are defects in Mr. Greaves' letter which show you, I think, that the data on which he founded his conclusions at the hearing, as well as his conversion already referred to, are scarcely sound enough for a scientist. I have taken the trouble to send three different people to Mr. Perry, in order to obtain correct data before replying on the following points.

Mr. Greaves alleges that the horse in question was brought to the court after having travelled eight miles. The distance over which it walked slowly is three miles.

Mr. Greaves assures your readers that "only one limb was fired." This is incorrect. Mr. Perry, the owner, who must feel himself greatly bored, has three times made the following statement for my information:—

The horse is not sound. I would not sell it for a sound horse. I think it will never be sound again. It is still leather-shod by Walters' orders. Walters is still attending it, and using some strong oils on the Sidebone. Walters fired it on both

fore legs at the same time that he unsoled it. I have never told any person that it was fired only on one leg. How could I say such a thing when there it is plainly to be seen on both legs?

Mr. Greaves alleges that he received a letter (inferentially from the owner, whose name is mentioned in the same sentence), wherein it is stated :—

The horse has been at work ever since the operation, except the month's rest after the operation, and no animal could go on better.

There is evidently some mistake here. Mr. Perry cannot be the author of that statement. He assured me (March 1st) as follows :—

“I have never written a line to Mr. Greaves, nor to any one else, about the horse at any time. Mr. Greaves has never received a letter from me in his life, and I am not aware that any one has written to him concerning the horse.”

Mr. Greaves also complains that I stated he told the Bench there could be no doubt the animal would recover in a month or two, and he adds, “I told the Bench nothing of the kind. I said, ‘I believed *in time* the horse would go right.’” The magistrates' clerk's copy of his evidence before me contradicts him, and vindicates me. Mr. Greaves's actual words were as follows :—“When it [the sole] has grown, *in a month or so*, the horse would go right.”

But taking Mr. Greaves's opinion, now that his prediction has failed, and discarding that which he gave in the witness-box, it would be curious to learn the value of his assurance that the horse would go right “*in time*.” What is the meaning of “*in time*”? I think it is now *time* to test this cure for Sidebone. The horse is still lame, although Mr. Walters has been attending it, and having “strong oils rubbed on the sidebone” as an additional remedy, assisted by two other “veterinary gentlemen,” who go with him sometimes to assist in making the animal well. The joint operations of firing and unsoleing were performed ten months ago, and it is now *time* to report whether the animal goes “right” or not. Each of the three persons who have recently examined the horse for me, declare it to be still lame, and that during the whole of the time they were inspecting it, the animal stood practically on three legs, easing and lifting the foot which had been unsoled, as horses and human beings invariably do when they feel pain in a limb. Is it not *time* now for the cure to be seen, especially as other remedies besides unsoleing have been applied?—I am, sir, your obedient servant,

R.S.P.C.A., 105, Jermyn Street, S.W.

JOHN COLAM, *Secretary*.

SIR,—I am astonished and sorry my friend, Mr. Greaves, thought it necessary to introduce my name into his reply to Mr. Colam, on the subject of tearing off horses' soles for the speedy and certain cure of “Ring-bones” and “Sidebones,” and especially with reference to the trial, in which, as he truly says, he was “the only veterinary surgeon for the defence.”

I am all the more sorry for this introduction, as it was not needed, and also because his statements and misstatements show that his memory is either very defective, or his desire to set himself right is only equalled by his eagerness to prove others to be wrong. He has certainly given his imagination free play, and I am impelled to notice his aberrations, in justice to myself and the two veterinary surgeons who appeared as witnesses for the prosecution. In the first place, allow me to state that, as in another

more recent case of cruelty, I was subpoenaed to give evidence, and I gave my opinion truthfully and fairly, as did my two professional colleagues, who agreed in that opinion.

Mr. Greaves states that I tried to prejudice the magistrates against the defendant in the witness-box and in a lane, where I went with one of them, arm-in-arm, etc., giving him *privately* my version, my idea of the case, "telling a tale of horrible cruelty inflicted in the performance of the operation," etc., etc. Now this is a pure invention on the part of Mr. Greaves, and to prove that it has not a shadow of foundation, I took the trouble to obtain the following evidence :—

Captain Smith, Consall Hall, Consall, the chairman of the Bench before which the case of Walters was heard, states : "Dr. Fleming never walked one inch down the lane, arm-in-arm with myself or with the other magistrate, as alleged by Mr. Greaves; nor did he speak one word privately to either of us, nor did he privately endeavour to influence our minds one way or the other. Dr. Fleming was a stranger to myself and the other magistrate, and to say that he walked arm-in-arm with either of us, is not only an absurdity, but a misrepresentation."

Inspector Leonard, of the S.P.C.A., says : "When the magistrates went to examine the horse, Dr. Fleming did not walk with either of them, and no private conversation of any kind took place, for Dr. Fleming and the magistrates were surrounded by a crowd which had come to hear the case, as well as by the witnesses."

The other allegations and accusations made by Mr. Greaves with regard to myself are as destitute of foundation as the above, and I take no further notice of them than to remark that I was more opposed to than in favour of a conviction for what was, in my opinion, and that of very many others a cruel operation, and which I hoped would be a check to its performance in the future. The dismissal of the case was not much of a victory for Mr. Greaves, if he will remember what the chairman said; but that it was dismissed on the evidence of Mr. Greaves, I will not gainsay. He stated that he had performed the operation of unsoleing a great number of times (forty, I think), and in every case with great advantage, and that he would have no hesitation in recommending the operation to his clients for the cure of Sidebones. He also positively stated that the horse operated upon by Mr. Walters would be free from lameness in a month (that was ten months ago, and the horse is now so lame that it cannot be worked on the road); that unsoleing was not a very painful operation, etc. Mr. Greaves states the horse was fired on only one leg; it was fired on *two*, and most severely on the one the foot of which had been unsoled. The owner of the horse, two days ago, said : "Walters fired in both fore legs. I was there myself and saw it." Mr. Greaves does not attempt to explain why, if unsoleing is a certain cure for Sidebones, the actual cautery was resorted to in this instance, nor what share in the cure he would allow the latter, if the horse had recovered from lameness.

The horse was suffering from sprained flexor tendons close to the fetlock, and the fetlock joint was overshot. Mr. Greaves' eyes, touch, and memory fail him very sadly, I fear.

There was only *one* other horse brought to the court, said to have been unsoled and cured of Ringbone thereby. This horse was not examined, as no credence could be placed in those who brought it. The plain, honest country people in whose statements Mr. Greaves places implicit confidence, swore that horses which were so lame that they could scarcely walk, immediately after the soles were torn off, got up free from lameness, and the Ringbones and Sidebones disappeared in a few days; also that the tearing off the soles did not produce any indications of pain. I need not quote

Scripture, but in reference to this evidence and what Mr. Greaves saw, there can be no doubt his ready credulity was most severely taxed, or he willingly allowed himself to be deceived. The result has shown that he made a mistake. When at Stoke, I was informed of Mr. Greaves tearing off the sole of a horse there some time ago; the animal, my informant said, screamed and struggled terribly during the operation, and died in a few hours afterwards. If this is a fact, Mr. Greaves did not allude to it at the trial nor in his letter.

My respect for Mr. Greaves forbids my saying more on this subject than that I have had occasion to operate on horses' feet frequently enough—at one time as often as your correspondent, perhaps—but that I never unsoled for Ringbone or Sidebone; that I would not recommend the operation for these conditions; and that I would be justified in not doing so, not only by the evidence of Mr. Greaves and the plain, honest country people he admires, but by the result in this instance. Mr. Greaves was the only veterinary surgeon for the defence in this trial; I have reason to hope and think that he stands alone in the profession (Mr. Walters excepted) with regard to his notions as to the advantages to be derived from tearing off the sole to cure Sidebone. Those members of the profession who were in court when he gave his evidence were as much startled as pained by his statements; and though the decision of the Bench pleased the rabble usually congregated in police-courts, and which on that day was mainly composed of low screw-dealers and other disreputable characters (Mr. Greaves' plain, honest country people, who corroborated his views), yet it and the trial do not reflect much credit on the defendant or his witnesses. It appeared to me that Mr. Greaves' assertions in the witness-box had about as much foundation as those he makes in his letter with regard to myself. We may entertain different opinions now and again on professional matters, but there is no reason why we should not adhere to facts in dealing with each other's sayings and doings.

Yours, etc.,

March 10th.

G. FLEMING.

QUALIFICATIONS FOR COUNCILSHIP.

DEAR SIR,—I have just received a circular from Mr. Mulvey asking the suffrages of the profession in order to his election as a member of Council.

His profession of faith seems remarkable, seeing that we live in an age of progress, and that our profession is making an effort to march with the times.

How a candidate could ask the votes of his professional brethren from such a platform is remarkable. Mr. Mulvey appears to desire to lower our professional standard instead of raising it. Away with our "charters on every conceivable question"! Away with our united attempts to bring a better class into the profession! Away with the "farce" of putting those who possess the "higher degree" in any place of legislative influence in the professional councils! Elect Mr. Mulvey as a Councilman, with every other candidate of like opinions, and let us go back to the dark ages of our profession; thus affording another instance to posterity of the levelling tendency of the latter part of the Victorian age. Yours truly,

F.R.C.V.S. (*Exam.*)

THE QUESTION OF SOUNDNESS IN HORSES.

SIR,—Mr. A. G. Ross has offered some remarks in the March number of this Journal in reference to the above question, some of which are easily answered ; others require explanation. The great lawyers who have presided at cases, when tried by them in London, have expressed themselves very explicitly. In the first place, Chief Justice Best is reported to have said in the case of *Best v. Osborne*, "It is a difficult matter, without the use of negatives, to explain fully and briefly the meaning of the word 'sound' as applied to horses." His lordship held that "sound" meant "perfect." Mr. Baron Parke follows, in *Kiddell v. Barnard*, that "the word 'sound' means what it expresses, namely, that the animal is *sound* and free from disease at the time he is warranted." And in the same case, Mr. Baron Alderson said, "The word 'sound' means *sound* ; and the only qualification of which it is susceptible arises from the purpose for which the warranty is given." Again, Mr. Baron Parke said in another case, "I think the word 'sound' means what it expresses," and repeated almost the exact words before stated. He goes on to say, "If indeed the disease was not of a nature to impede the natural usefulness of the animal for the purpose for which he is used, as, for instance, if a horse had a *slight pimple* on his skin, it would *not* amount to an *unsoundness*, but even if such a thing as a pimple were on some part of the body where it might have that effect, as for instance, on a part which would prevent the putting a saddle or bridle on the animal, it would be different." Further he said, "An argument has, however, been adduced from the slightness of the disease and the facility of cure ; but if we once let in considerations of that kind, where are we to draw the line ? A horse may have a cold which may be cured in a day ; or a fever which may be cured in a week or month ; and it would be difficult to say where to stop. Of course, if the disease be *slight*, the *unsoundness* is proportionably so, and so also ought to be the *damages* ; and if they were inconsiderable, the judge might still certify under the statute of Elizabeth (j) to deprive the plaintiff of costs. But on the question of law, I think the direction of the judge in this case was perfectly correct, and that this verdict ought not to be disturbed. Were this matter presented to us now for the first time, we might deem it proper to grant a rule, but the matter has been, we think, settled by previous cases ; and the opinion which we now express is the result of deliberate consideration." And Mr. Baron Alderson said, "I am of the same opinion." These extracts are taken from Oliphant's work, entitled "The Law of Horses." I think it must be admitted that the judges whose words I have quoted, have clearly defined what *soundness* means, but in practice we find that that definition is not always adhered to. In cases of *warranty* there cannot be any difficulty in answering the question by the words "yes" or "no," simply from the fact that *sound* means *perfect* ! How often do we meet with sound or perfect horses ? I am of opinion that we seldom examine perfectly sound horses, and, if such be the case, what are we to do ? This subject was treated by me in the pages of the *Veterinarian* for nearly five years, commencing in 1863, and articles appeared every month, during that period, up to the time of my old and esteemed friend Merton's death. I found that the question was a large and comprehensive one to deal with, and one that in my opinion, *cannot* be settled by the profession in the face of the decisions of the Law-Lords. If the members of the profession are to be *unanimous*, the "law" must first undergo considerable alteration and amendment. The practice adopted by me for many years in examination as to soundness, is to ascertain defects or disease which may be called patent or visible—facts, in other words—and then bring experience to bear upon the point, and give a certificate accordingly. Examinations, therefore, are divided into two sec-

tions—namely, legal soundness or unsoundness, and practical or useful soundness. It throws a large responsibility upon the examiner, as a matter of course, but I have always found it act satisfactorily. For example, a V. S. is requested to examine a horse as to soundness, and he discovers a splent or node upon some part of the metacarpal bone, and he must decide whether that splent is likely to cause lameness, and prevent the animal performing the work he is intended for, or otherwise. It would be a difficult question for the profession to decide that splent is an unsoundness or *not*, because not only the situation of the bony deposit, but the *magnitude* as well as *shape* must be duly weighed. In a long professional life, I have met with many singular cases, and if they were related it is more than probable that many members of the profession would feel somewhat sceptical as to the truth. The same remarks may be made in reference to exostosis situated upon the “Tarsi.” I have purchased horses with large bony deposits, for the purpose of experiment, and have found these exostoses never interfered in any way to cause lameness or any inconvenience; so that such horses, although unsound, were *practically* sound. I think we shall have to be contented with the present state of things, for some time longer, and it behoves practitioners to make themselves as familiar as circumstances will allow, with not only the structure, but the function of parts, when considering the diseases found upon the limbs. I should, however, be glad to read the opinions of members of the profession who may wish to throw light upon this knotty question. With regard to veterinary surgeons not agreeing, it is not surprising, inasmuch as some men are so prejudiced, that if one gives a certificate on soundness, another is certain to reverse it, and *vice versa*. It must be remembered that the profession is composed of many classes of individuals, and all are not alike constituted. And there is an old saying, *and a very true one*, viz., “Prejudice, when it looks it squints, and when it talks it lies.”—I am, sir, yours, etc.,

R. H. DYER, M.R.C.V.S.

Limerick, *March 3rd*, 1884.

DEAR SIR,—Surely it is possible to arrive at a better understanding amongst ourselves as to the soundness of horses, so as to prevent so much difference of opinion, which makes us appear ridiculous in courts of law. Doctors differ, but, I think, not so much as veterinary surgeons. The evidence of ordinary or non-professional witnesses frequently varies considerably; but we, as a united body, should have more uniform ideas as to what lameness, etc., really is. Very rapid advances are being made in our profession, and no doubt ultimately improvements will be made in this particular branch. There are, certainly, unavoidable causes, and also accidental matters, which bring about opposite certificates. But practitioners differ very much in their ability in this particular direction. Certain diseases appear suddenly, and sometimes disappear in the same manner—to wit, a slight cough, which may produce temporary whistling; spasmodic Roaring, etc. Different veterinary surgeons have various methods of examination; some themselves ride the horse, others do not; some are *much more particular* in their examinations than others. Injuries may, and sometimes do, occur subsequent to previous surgeon's issue of certificate. The throat-band of the bridle may press upon the larynx and thereby cause temporary noise. Recently a case occurred where a veterinary surgeon passed a certain horse as sound without having taken the precaution of having the saddle removed. The result was that the owner, on the arrival of the horse, found a number of vesicles (Eczema) under

the saddle, which caused the animal to be under treatment for three weeks. At the numerous veterinary medical meetings it would be well if this matter was discussed. If pupils passed a certain time at a good veterinary establishment prior to going to St. Pancras school, it would, methinks, prevent the trouble to a great extent. To examine horses well requires a horse-man, and there would be fewer men in our ranks who are not naturally horsemen if it were a more general rule for them to act as pupils to a veterinary surgeon. Veterinary literature on other matters is in accordance with the spirit of the age, thanks to Fleming, Williams, etc., etc., but we lack a good work on "Veterinary Jurisprudence."—I remain, yours faithfully, "EXCELSIOR."

PARTURIENT APOPLEXY OR MILK FEVER IN COWS.

DEAR SIR,—I have read with much pleasure Mr. J. H. Cox's paper on the above disease, and I must acknowledge that it is a very able one, showing great literary ability and practical utility. But I entirely disagree with Mr. Cox as to the cause of the complaint, which is my only excuse for writing this letter. He states that the disease is due solely to Thrombosis, or blood-clotting.

The clots, he presumes, are taken up from the divided ends of blood-vessels in the uterus (either, he says, of the cotyledons or umbilical vessels; here I cannot understand what Mr. Cox means, for what have the umbilical vessels to do with bloodclotting in the cow?), and become lodged in the brain, producing Apoplexy. Now, blood-clotting may be a cause of Milk Fever, but is scarcely probable, as I shall attempt to prove presently. Mr. Cox brings forward many good reasons mentioned by other authorities as the cause of this disease, but very soon disposes of them in favour of his pet theory, Thrombosis. He mentions the udder being hard, tender, and hot showing that the blood-vessels of the gland are engorged, and yet milk is not produced in sufficient quantity, solely, he says, from defective nerve stimulus, resulting from thrombi. Is it not possible for over-congestion of the mammary gland to be the cause of insufficient secretion of milk? Again, if Mr. Cox's theory be right, how is it, other things being equal, that a poor milker is not so susceptible to the disease as a heavy one? Is it that the uterus of a bad milker is always in its pristine condition of contractile power, and that it is impossible for blood clots to be absorbed from the uterus of such a cow? Mr. Cox also asserts that if the uterus only contracts on itself it is immaterial how many injured cotyledons there may be; absorption of blood clots, will not take place, for the clots are held firmly fixed by the contracted uterus. This is a great stretch of imagination, and contrary to all teaching. Now, thrombi, which may be detached from plugged vessels in the uterus, are most likely to produce embolism in the lungs, and not in the brain; certainly congestion of the lungs does occasionally occur after Milk Fever, but this is a sequel of the disease, and does not arise primarily. Then, again, where we are least likely to have any injury to the cotyledons? when the cow-calves with remarkable ease and the placental membranes have been expelled naturally, how is it if the cow be a heavy milker we are very liable and likely to have the disease set up? Mr. Cox also doubts the possibility of a cow taking Milk Fever before calving, for this might upset his theory. But this is possible, and I have seen it and had to take the calf away while the cow lay on the ground in an insensible condition; she never regained consciousness, and was destroyed twelve hours afterwards, comatose.

Now, if emboli be the cause of this disease, then bleeding from the jugular vein after calving would certainly be the very worst plan to pursue, for you empty the blood-vessels, and thus hasten absorption, to make up for the loss of blood taken. Blood clots or detachments of thrombi would therefore be likely to be drawn into the circulation; but in my practice, instead of causing emboli to be lodged in the brain, bleeding has the opposite effect, and invariably prevents the disease taking place.

My belief is, that the primary cause of the complaint is plethora, due to overfeeding, want of exercise, and the artificial forcing to which dairy-cows are now subjected. This excess of blood in the body at the period of parturition, causes over-congestion of the mammary gland, producing, instead of a free flow of milk, suppression of the lacteal production, the milk being short in quantity. Should this congested state of the udder not become relieved, the sympathetic nervous system becomes deranged, and the excess of blood in the system flies to the brain, producing Apoplexy. The best preventive of Parturient Apoplexy I find to be the abstraction immediately after calving of four quarts of blood from the jugular vein, and give a purgative composed of Magnesium sulphate half pound, and treacle four to seven pounds. Mr. Cox's treatment of the disease I consider good, but think the printer has made a misprint in regard to the quantity of ginger and gentian given by Mr. Cox. He surely never would give a cow a pound weight of each! I also cannot see the utility of injecting the uterus with astringents. Trusting these few disjointed remarks will not be taken amiss by Mr. Cox, for I consider it very essential to find out the cause of the disease, as, if we know not the cause, we cannot hope to be successful in our treatment, I am, sir, yours respectfully,

“VERUM.”

PROTECTIVE INOCULATION FOR CONTAGIOUS PLEURO-PNEUMONIA.

SIR,—I think the attention of the profession should be called to the following paragraph which appeared in the *Scotsman*, of March 15th:—

“The Veterinary Inspector to the Aberdeenshire Local Authority submitted to the Board an interesting report on experiments in the inoculation of cattle to prevent the spread of Pleuro-pneumonia. The report stated that twenty-three animals had been operated upon in the month of April last year, and the condition of the cattle was carefully noted in all the stages through which they subsequently passed until they reached the butcher's hands, when it was found that none of them were affected by the disease. It was contended that the system of inoculation would do much to prevent the disease spreading in valuable breeding herds.”

As we all know, this fact of *practical* prevention of Pleuro-pneumonia has been worked out and established by Mr. R. Rutherford, of Edinburgh, some years ago. Might not the dignified inspector have condescended to acknowledge the source of his information, and have only honoured the deserving Jenner of the veterinary profession? Ought it not to be, “to whom honour is due, let the honour be”?—Yours obediently,

Manchester.

A. J. HASLAM.

SLOUGHING IN RINGWORM.

SIR,—Early last month I attended a bay gelding affected with Ringworm in three places. I treated it with mercurial ointment, two spots got well, but I forward a patch of cuticle which sloughed out of the third. I thought some favourite nostrum might have been used in my absence; but from inquiries instituted I find such could not have been the case. I would be glad of any information as to probable cause, or similar experience from any of your readers. Some other horses I am now attending, I treat with carbolic and glycerine as a burnt child.—Yours, etc., “GUILLIT.”

[The piece of cuticle forwarded, looks as if necrosed by the action of arsenic. We have never seen ordinary mercurial ointment produce this result.]

PROFESSIONAL ADVERTISING IN IRELAND.

SIR,—Much has been said and written relative to improving the social status of the profession, and no one has done more than yourself towards that object, and for which you deserve the thanks and support of the profession. But while a system of advertising is pursued, where the heads of the profession in this country (Ireland) advertise in the same phraseology as tailors, and a F.R.C.V.S. appears in conjunction with a notice from pig-jobbers, and in a low and seditious print, surely a serious obstacle is thrown in the way of our social and professional advancement. Why cannot a man commence his professional announcement with the prefix “Mr.,” the same as the dental surgeon, who is, I presume, neither socially nor intellectually our superior? I hope, sir, you yourself will again refer to this matter. In this country the profession ranks as high, if not higher, than in England or Scotland; but such pernicious habits tend to retard it in every way.—I am, sir, your faithful servant, “AN IRISH PRACTITIONER.”

[Our correspondent encloses two cuttings—one from a notoriously disloyal and disreputable Irish newspaper, in which two members of the Royal College have advertisements in the same column with those of a tailor and a pig-salesman; another from a local paper, with the advertisement of a young member, who quotes a testimonial given by one of his teachers. No doubt, the practice of advertising in this fashion is eminently calculated to discredit the profession and keep it down to a low level.]

THE MAYER FUND.

DEAR SIR,—I beg to thank you most sincerely for inserting my appeal to the veterinary profession, as well as for the continued support which you have afforded to its prayer; I desire also to record my grateful thanks to the following contributors whose donations have been received by you and paid into my account at Messrs. Cox and Co., Craig’s Court:—J. Roalfe Cox, £10; J. E. Jarvis, £5 5s.; Sir F. Fitzwygram, Bart., £5; Professor Brown, £5; Professor Simonds, £5; Thomas Greaves, £3 3s.; Messrs. G. Balls and Son, £3; Professor Robertson, £3; Messrs. Lepper, £2 2s.; D. Hutchen (Cape), £2 2s.; J. Freeman, £1 1s.; E. Burnside, £1 1s.; S. W. Withers, £1 1s.; H. Paradise, £1 1s.; A. Stainton, 10s. 6d.

My sincere thanks are likewise due to Thos. Gudgin, Esq., and to the undermentioned members of the "Army Veterinary Department," for the following sums which have been handed over to myself:—T. P. Gudgin, £4 4s. ; W. B. Walters, £2 2s. ; Dr. Fleming, £2 2s. ; E. T. Cheeseman, £1 1s. ; D. J. Hinge, £1 1s. ; W. Appleton, £1 1s. ; W. Gladstone, £1 1s.

Yours truly,

T. W. MAYER.

[We beg to draw attention to this appeal of Mr. Mayer, whose case is worthy of consideration by the charitably-disposed members of the profession.]

AMPUTATING HORSES' TAILS.

SIR,—I have received many communications on the subject of my motion on docking, which comes on for discussion at the next meeting of the Council of the Royal College, not only from individual members of the profession, but from various veterinary medical associations, approving of the motion.

There seems to be an impression in some quarters that the motion is irregular, and I shall, therefore, be much obliged if you will allow me space to inform the profession that the notice is in proper form, and will be introduced as announced.

Bye-law 11, is perfectly clear on the point ; it runs as follows :—

"Any member of the Council who shall be desirous of introducing any subject for discussion, shall give notice thereof in writing to the chairman at some previous meeting, or to the secretary in time for its announcement in the notice of meeting."

If the Council did not act, or acted contrary to the general feeling of the profession, Bye-law 15 provides a solution of the difficulty. It runs as follows :—

"The President, upon receiving a requisition signed by ten members of the Council, or by twenty members of the College, requiring him to call a Special General Meeting of the members of the college, and stating the object for which such meeting is required, shall call such meeting within twenty-one days after the receipt of such requisition."—I remain, sir, your obedient servant,

Windsor, *March 13th.*

HENRY L. SIMPSON.

TWO SIDES TO A QUESTION.

SIR,—The question under discussion is the relationship of the schools to the profession, not whether I am a fool or not. The latter question cannot be properly discussed with an anonymous writer, and, anyhow, is of very little importance. The former question is of great interest, and I venture to ask your indulgence for a statement of what I conceive are the facts.

Twenty years ago the teaching-schools by their influence and activity ruled the profession by always having a majority of their friends on the Council, which was then, as now, the representative governing body. When the profession obtained a majority as opposed to the schools, they found themselves powerless to carry out any reforms, owing to the defective protection given us by our charter. By persuasion, reason, tact, and mutual forbear-

ance, under the presidentship of Sir F. Fitzwygram, an arrangement was formed between the profession and the schools (with the strong public bodies behind them) by which a new and improved charter was obtained. This charter tied the hands of the schools, and would never have been granted if opposed by them and their backers. It was not gained by threats and recrimination, but, in the words of Principal Williams, "by the willing and hearty support of the schools."

Upon the basis so founded has been raised that superstructure of reform which has recently given rise to some diversity of opinion—a superstructure which owes more to Dr. Fleming than to any other single man, but which is the joint work of many. Our reforms have been very rapid. I approve of every one of them, but I cannot overlook the fact that nearly all affect, or did affect, the interests of the schools, upsetting their internal organisations, increasing their work and expenditure, but adding nothing to their material interests. Those who have the care of the schools would be more than human in their generosity did they not claim some credit for their share of our improvements, and worse than fools in their management if they did not object to measures calculated to increase their burdens.

The sum of their misdeeds is that they have assisted the upward progress of the profession at their own expense; that they have successfully prevented a compulsory pupilage, the good of which they deny; and that they have had the temerity to publicly say so.

One question is not yet settled—the Matriculation Examination. Main strength and stupidity will not settle it, but I hope and believe that a little courtesy, a little friendly consideration of other people's difficulties; an exhibition more of the velvet glove than the iron hand will pull us through, as it has done before. The spirit indicated by the statement of "Councilman," in March, will facilitate matters, viz.:—"We all respect the veterinary professors who have done their duty to the profession, have been loyal to the body corporate, and have not damaged us in public estimation." But the tone assumed by "Councilman" in January can only cause friction and predispose to resistance. He then said:—"The profession owes little, if anything, to the schools, and if it desires to advance, it must itself move and effect reforms; none will come from the schools. The schools are all very well in their place to teach the rudiments of the profession." In this quotation is compressed all the ingratitude and narrowmindedness of which I complain, and it displays the ignorance of the writer. Fancy a man who has no better idea of the work of a veterinary school than its "teaching the rudiments of the profession." What our schools have to do is to *teach the principles of veterinary science*, and it is a great work—something far beyond the conception of your correspondent, who, let us hope, is only a "Councilman," not an examiner.

Your correspondent "Progress" appears to mean well to the profession, and does not decry the schools. He hardly, however, I think, does them justice. Their relation to the profession he puts rather on the same footing as the connubial arrangement implied by the husband's remark to his wife: "What's yours is mine, but what's mine's my own." He says:—"The great question now is, are the schools to govern the profession, or are they only aids to the profession, and is the profession to govern itself?" I venture to say that this question was answered some years since by the new charter, and that now the question is, Why cannot the schools be permitted to govern themselves and the profession itself? Why cannot both work harmoniously? I believe they can, if transactions affecting them both are carried out in a considerate spirit, and by men whose experience and intelligence enable them to grasp both sides of the question. Unfortunately, there is on the Council at least one man who is wanting in the necessary intelli-

gence and good feeling, and, greater misfortune still, whose re-election may possibly be effected by his continuing to conceal his identity. I can only hope that at our next general meeting he will have the courage to repeat in person what he has written behind a *nom-de-plume*.

Yours obediently,

WILLIAM HUNTING.

SCOTLAND AND THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.—THE COMING ELECTION.

SIR,—In view of the election in May, perhaps you will kindly allow me space for a few remarks as to these subjects.

Scotland has three veterinary colleges, with about 380 students. Two of these colleges founded by Scotchmen, one by an Englishman or Welshman, members of the profession. Upwards of three hundred practitioners, holders of the R.C.V.S. diploma, and many others—as good men—holders only of the Highland Society's certificate. Almost all these men have been educated at home, very few in England. Scotland has three veterinary medical societies; their last amalgamated meeting was attended by seventy veterinary surgeons, besides students and others.

England has one veterinary college—in the hands of a company, with its directors or governors, very few of them members of the profession; students two hundred and twenty in number. Fifteen hundred members of the R.C.V.S.—a large proportion of them educated in Scotland, and graduates of Scotch colleges. England has at least six or eight veterinary medical societies—no systematic amalgamation, so far as I am aware. The annual general meeting of the Royal College of Veterinary Surgeons last year was attended by about a hundred and fifty—the dinner by seventy members and guests.

Let, sir, any one compare these two pictures or statements, and say is it fair, is it right, that there should be *twenty-eight* of the practitioners of England on the Council and only *two* of those of Scotland? Such is the case. The Principals of the Edinburgh schools are the only men from Scotland at present sitting as members at the Council table, and their term of office expires in May.

Scotch practitioners have been accused of apathy as regards the R.C.V.S. and its Council; very naturally, they see so little of the meetings of either. Last year, however, two of their number were chosen—men who, as regards knowledge of their profession and love for it, have few superiors; every effort was made to secure the return of these men to Council, and the result was—thorough failure. The Scotch practitioners, polling almost every vote of those surrounding them, were left out in the cold; the London and English practitioners, polling only a moiety of those in their vicinity, walked triumphantly into the Council. Scotchmen, when they wake from their apathy, find they are surrounded by three hundred voters, and they fail. London and Lancashire men find a thousand ready to their hand, and they succeed. If any one wishes to prove, that at a general election the tens of England dwarf and outvote the units of Scotland—that a general vote or *plébiscite* favours numbers and populous centres, he has only to turn to the last election, May, 1883. No better argument in favour of a change in the present mode of election need, I think, be sought for.

This year the candidates in the Scotch interest and in that of the colleges are the Principals of the Scottish colleges. Each veterinary college should surely have its own special representative. The Principal of the London school sits on the Council. The Edinburgh Professors retire, but will probably be again elected. The Principal of the Glasgow school has been for a good many years out of office. Why is this? Professor McCall founded

the Glasgow Veterinary College ; he has carried it on by his own unaided efforts and energy ; there is no better teacher, no better practitioner—Glasgow and its veterinary college surely have a right to ask that its Principal sit on the Council alongside of those of the London and Edinburgh schools. With the Scotch professors the name of Mr. Mulvey, Bishop Auckland, is joined ; the men of the northern counties of England wish to return him as their representative, and they surely have a perfect right to do so. The men of the South have representatives and to spare already ; surely they will not grudge to their friends in the North a share in the privilege they have so long enjoyed.

“ Union is strength ;” but there is such a thing as “ union ” without “ absorption,” and if thirty-nine of forty annual general meetings held in London and one in Scotland—if twenty-eight out of thirty-one members on the Council, and ten out of eleven members on the Examining Board, is not absorption on the part of our English friends, what is it ?

Two or three years ago, many holders of the Highland Society’s diploma showed their friendly feeling to the R.C.V.S. by advising the Directors of the Society to discontinue their examinations, and come to an amicable agreement ; but, as has often been remarked, they never anticipated this result. If this state of matters continues it will find its own remedy, which may be friendly or the reverse. A friendly solution of the difficulty, which suggests itself to any one taking the trouble of thinking the matter over is :—1. Some better system of representation, more especially as regards Scotland and Ireland, on the Council. The constituency scheme lately presented by the Scottish societies to the Council was simply a means to this end. 2. The appointment of a few more Examiners from Scotland. 3. A sort of Veterinary Minister for Scotland, or a small subsection of the Council, to hold two or three meetings in the year somewhere North of the Tweed. The six or eight Scotch representatives under the constituency system, with the three professors, would form a nice little committee, or sub-council, to which might safely be left the appointment—or at least nomination—of Scotch Examiners, the transaction of much of the Council business as regards the Scotch schools, and other such matters. This little arrangement would save the members of Council in Scotland many a long journey to London, and simplify and facilitate much of the business of the Council. All matters of paramount importance, of course, to be discussed and decided in Council as at present.

Into the discussion of such matters we need not, however, enter, but it is to be hoped, that in the coming election in May, friendly counsels and feelings will prevail ; that members of the profession will remember, that the Royal College of Veterinary Surgeons is our national body, and that its Council, to some extent at least, should be a national one—a Council representative of all classes and of all portions of the profession throughout the kingdom ; that Scotch and Irish veterinary surgeons, though fewer in number, have just as much right to have their representatives on the Council as their more numerous English neighbours, and that the end and aim of all voting is the best, the fairest, and the most equitable representation and government of our profession.

My presumption may, perhaps, in closing, be excused, if I venture to suggest that it would be a friendly, graceful, and gentlemanly act, to return the Scotch professors and the representative of the northern counties ; they are surely entitled to a place at the top of the poll ; and if the R.C.V.S. would kindly hold its next annual general meeting, May, 1885, in Scotland, I think, if spared, their Scotch friends could guarantee the members a reception creditable to all parties. Matters are considerably changed in Edinburgh since the last meeting there, four years ago. The gatherings at

the opening of the colleges and the meeting of the societies this winter were very different from that formerly seen, and I see no reason why a meeting of the corporate body in May, 1885, should not outshine these assemblies. One word of warning, however; 10 o'clock on Monday morning is not a suitable hour. Many Scotchmen will not, and others cannot, leave their homes on Sunday evening, and travel by train. Adjourn the meeting to one o'clock on the Tuesday, Wednesday, Thursday, or Friday, and I venture to predict that the assembly will be worthy of the occasion. Apologising for the length of this letter,—I am, sir, yours very truly,

C. CUNNINGHAM.

Slateford, 17th March, 1884.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from A. Broad, London; "Verum;" M. Hedley, Dublin; J. Mills, A.V.D., Madras; R. H. Dyer, Limerick; Professor Smith, Ontario; "An Irish Practitioner;" "Medicus;" "A Dog Breeder;" T. Greaves, Manchester; "Excelsior;" H. L. Simpson, Windsor; F. Spencer, Wragby; H. Kidd, Hungerford; G. Fleming, London; A. E. MacGillivray, Banff; W. Broughton, Leeds; A. Bain, Liverpool; W. Hunting, London; A. J. Haslam, Manchester; C. Cunningham, Slateford; "Guillit;" A. W. Hill, London; J. Colam, London; T. H. Lewis, Edinburgh; A. Leather, Liverpool.

BOOKS AND PAMPHLETS: *Brusasco Lorenzo*, Carbonchio Bacteridiano e Setticemia; *Dr. Adolf Striimpell*, Lehrbuch der Speciellen Pathologie und Therapie der inneren Krankheiten; *Dr. Roderick Stintzing*, Ueber Nervendehnung; Bulletin de la Société Centrale de Médecine Vétérinaire; *F. Ram*, Breeding Horses for Use.

JOURNALS, ETC.: *Tidskrift för Veterinär-Medicin och Husdjursskötsel*; *Deutsche Zeitschrift für Thiermedizin und Vergleichende Pathologie*; *Supplement to ditto*; *Wochenschrift für Thierheilkunde und Viehzucht*; *L'Echo Vétérinaire*; *Der Hufschmied*; *Der Thierarzt*; *Revue Vétérinaire*; *Recueil de Médecine Vétérinaire*; *American Veterinary Review*; *Archives Vétérinaire*; *Lancet*; *Repertorium der Thierheilkunde*; *Medical Times and Gazette*; *Medical Press and Circular*; *Live Stock Journal*; *Practitioner*; *United States Live Stock Journal*; *Annales de Médecine Vétérinaire*; *Edinburgh Medical Journal*; *Journal de Médecine Vétérinaire et Zootechnie*; *La Presse Vétérinaire*; *Clinica Veterinaria*; *Quarterly Journal of Veterinarian Science in India*; *American Live Stock Journal*.

NEWSPAPERS: *Scotsman*; *Darlington and Stockton Times*; *Irish Times*; *Hawick Advertiser*; *Cape Times*; *Dundee Evening Telegraph*; *Irish Sportsman*; *Winnipeg Free Press*; *Edinburgh Courant*; *Standard*; *Portland Daily Press*; *United Ireland*.

All Communications, Books for Review, Advertisements, etc., should be addressed to the Publishers.

Morbid Specimens should be forwarded to the Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, though not necessarily for publication. Anonymous Letters and Articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors.

Communications for insertion in the next number should arrive on or before the 15th of the present month.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

MAY, 1884.

OBSERVATIONS ON SOUNDNESS.

BY R. H. DYER, M.R.C.V.S., LIMERICK.

THIS subject was taken up by me in the year 1863, and the first communication appeared in the January number of the *Veterinarian*, and was continued up to the death of my esteemed friend, the late Professor Morton.

In a letter which appears in this Journal for the month of March, the writer alludes to an essay which he was about to read before the members of the Liverpool Veterinary Association upon soundness in horses, and in which he expresses an opinion that we ought to be able to write the word "Yes" or "No"—that is to say, it should be enough to state that an animal which has been subjected to examination is either sound or not. This may be done in some cases—warranties, for example, when there has been a breach of same; but in ordinary practice I think we should meet with many difficulties, and it would be the means of obstructing the dealing trade, not as regards that class of men denominated and known as "dealers," but of breeders generally.

In my opening communication to which allusion was made, these words appear:—"From time to time members of the veterinary profession have written on this all-important subject, and it is to be regretted that, up to the present time (1863), we are as much in the dark as we were half a century ago respecting

it, as each examiner pursues his own course in the matter." It goes on to say, substantially, that I could not do better than commence the year with a few observations upon the manner in which horses are inspected, and the many interpretations placed upon the word "sound" by the legal and veterinary professions, as well as by the public in general. There are so many definitions given as to the meaning of the word *sound* by those persons who have to sell, by those who intend purchasing, and by those whose province it is to give an opinion upon such cases, that we are often perplexed to know what is best to be done when called upon to act for our clients. "Webster defines the word 'sound' to be *entire, unbroken*; not shaky, split, or defective; undecayed, whole, perfect, intact; unmutilated, healthy; not diseased, not being in a morbid state; having all the organs complete and in perfect action." Many of our able lawyers have also defined the word "sound." "Oliphant," at page 51, we read Chief Justice Best, in the case of *Best v. Osborne*, held that "sound" meant perfect. In *Kiddell v. Brunard*, Mr. Baron Parke said: "The word 'sound' means what it expresses, namely, that the animal is *sound* and free from disease at the time he is warranted." And in the same case Mr. Baron Alderson said: "The word 'sound' means *sound*; and the only qualification of which it is susceptible arises from the purpose for which the warranty is given." There are other cases cited, but they tend to the same meaning; and those quoted may be accepted as the *legal* interpretation of soundness. These and similar cases were tried for breach of warranty. We, as veterinary examiners, are not so much interested in matters of dispute as to soundness of horses prior to purchase. There is a wide difference between the two kinds of examination, whether an animal having been warranted sound, purchased, and taken into possession and used by the buyer, and the animal found to be not according to warranty, but unsound, and an examination previous to a purchase being concluded. By the first, the horse is warranted to be a sound one, *i.e.*, perfect in all his parts—free from disease. Should such a case be brought to an examiner for an opinion, it is an easy matter to decide in most instances. In such an one the examiner can write

“Yes” or “No.” But in the ordinary examinations the purchase, or concluding a purchase, invariably hinges upon the verdict of the veterinary surgeon. It will then be seen how far apart the two species—if I may employ such a term—are from each other. It has now and then been suggested that an association be formed of professional and non-professional men, in order to come to some settlement as to what constitutes *unsoundness*. I fear there would be as many, if not more, difficulties to surmount as in passing a Bill through Parliament. Should an attempt be made to settle the knotty question, the Royal College of Veterinary Surgeons ought to be the medium, and the sanction of Parliament obtained before it could be passed into a law; because, if such were to take place, and a case brought into Court, the presiding judge would hold his own opinion, which might possibly interfere with a code of laws or rules made by individuals not having the sanction of the Legislature. Sellers of horses frequently make use of strong language in describing them. One man will declare that an animal is sound, so far as he knows. Such refer more particularly to lameness, and think if an animal is free from lameness he is sound. There are several definitions given by non-professional men as to soundness, that we need not be surprised at purchasers being often puzzled in the course of their dealings with horse-men. There is first, sound horses; secondly, usefully sound; practically sound, constitutionally sound, in the third and fourth places; after these, we find the words naturally useful, and so forth, most of which are unsatisfactory to many purchasers, and it must be admitted that each expression, except the first-named, seems to imply that there is something existing in the animal which is not mentioned; and as long as there are so many unsound horses offered for sale, our certificates should be written to suit individual cases. It is well known that each examiner has some system by means of which he performs the office of testing soundness, but whether such system is correct is another thing. I once heard a member of the College declare on oath, that his mode of testing the wind of a horse was to kick or punch the animal under the belly! It is a common act to make an attempt to strike an animal, and even to do so in reality, or to drive him up suddenly against a wall, for the same purpose.

It may be well to inquire into the duties of an examiner. I hold that it is our province to employ ourselves in ascertaining if an animal submitted for examination is suffering from disease of any description ; if so, what is it, and what is its import ? In order to do this properly, the animal should be placed in a stall, tied loosely, and allowed to rest for a certain length of time ; and if this is done in the stable of the examiner, so much the better, although some practitioners advocate the stable of the seller. It has been—and still is—the custom in some districts for the seller to pay the examination fee should his horse be rejected as unsound ; a more absurd practice was never heard. In the name of common sense, is not the protected party the one to pay for his protection ? Is it reasonable or fair to claim money from the owner or seller of an animal he has perhaps bred, reared, and used for three or more years without experiencing a day's illness or idleness owing to incapability ? It may be argued (and has been by some purchasers) that it is of no consequence as to whether the horse in question was bred, reared, and used by the seller as declared by him or not. He (the seller) states that his horse is sound, so far as he knows, and if a buyer requires protection he shall pay for it. I have always protested against this impost, from the fact that I feel convinced if a purchaser is unable to satisfy himself of the soundness of his purchase and requires the aid of a professional man, the fee should be paid by him, he being his client for the time being. Take, for example, a case at a distance. A veterinary surgeon is sent to a far-distant town to examine an animal which has been purchased there by a client who happened to be in that locality, and it is arranged to send a certain veterinary surgeon to test soundness. The horse is rejected as an unsound one, and the examiner claims his fee—perhaps five guineas, or more—what would such a request be thought of ? It is precisely similar to such cases to which allusion has been made. Unfortunately, many men have adopted the system, which became settled down as a custom. I could say more if needs be. But what will be said when I assert that it was the custom some years—not many—ago for sellers of horses to hand a fee to the examiner, assuring him that that was the custom in certain districts ! To my surprise this was

experienced by me when I settled here. A "J.P." sold a mare to a client of mine, and she was to be examined at this place. The groom walked towards me and held out a gold coin—the fee at that time. I inquired what he meant. He replied "This is for yourself." I then asked if he was going to pay the fee for examination? His employer stood some distance off, and, believing there was some hitch, came forward, and said, "It is customary in this district to hand a fee to the veterinary surgeon." I answered that I had heard as much, but didn't believe it. I added, "This is a *bribe*. Take it back, and I'll explain my views presently," which I did. I took the earliest opportunity of exposing the system in the press, which, I hope, had the desired effect. This and other objectionable practices on the part of examiners has brought the profession into disrepute. It has been truly stated that "the profession does not make the man, but the man makes the profession." In my next, I will give my system of examination.

THE ACTION OF TOBACCO AS AN EXTERNAL APPLICATION.

BY W. COX, M.R.C.V.S., NEWCASTLE-ON-TYNE.

A CAB-PROPRIETOR, a client of mine, purchased a horse with his skin infested with lice. He dressed him with tobacco water, obtained from a manufactory in the city, and it cleared off most of the parasites. To make quite sure, the owner obtained a second supply of tobacco water, and used it liberally. In about an hour the animal began to tremble, and as this increased, I was called in. As the application was quite cold, I imagined at first that this might be contributory to the shivering, but on inquiry I found that the skin had dried after the dressing, and in an hour afterwards a cold sweat was exhibited.

The position of the animal was peculiar; the head was very erect, but held sideways; the ears constantly pricked; the eyes staring and the pupils dilated, not sensibly contracting on the approach of light. There was no uneasiness, or indications of pain; the respiration was not sensibly disturbed, although slightly

nasal. The pulse was only 25 per minute, remarkably full in volume, and occasionally intermittent. The temperature very slightly decreased.

A dose of acetate of ammonia, with brandy ʒvi , and a pint of *very strong* tea, was given every half-hour. The skin was rubbed dry and clothed.

In a couple of hours I again saw the patient. Pulse 30, softer and regular; other symptoms were unchanged. He was again covered with perspiration, and as his clothing seemed to annoy him, part of it was removed. There was an involuntary action of the sphincter ani, but no voidance of fæces—in fact, none were passed for fifteen hours. I stayed with him, and in four or five hours the symptoms had gradually subsided. The day following, being apparently in his usual health, he had walking exercise; he blundered in his going, and voided excrement more frequently than usual and in smaller quantity. He was at work the next day.

The second lot of tobacco water was thick, and evidently the lees of the vat.

RUPTURE OF THE PERICARDIUM.

BY ARTHUR LEATHER, M.R.C.V.S., LIVERPOOL.

INSTANCES of the above being rare, I beg to forward you the particulars of a case which occurred in our practice on the fourth day of March.

The subject in question was an iron-grey cart-horse, six years old, he being the leader or chain-horse in a team of two. At the time of accident they were employed in drawing a load of between six and seven tons of wheat from one of the docks to a goods station—distance about three-quarters of a mile. The driver did not notice anything wrong till the approach to the station was reached, when just having crossed a line of metals, the horse stopped suddenly and commenced to totter. He at once unyoked him, with the intention of taking him to our nearest establishment, but had only advanced a distance of four or five yards when he dropped dead.

On making a *post-mortem* examination an hour afterwards, I

found the cause of death to be a rupture of the pericardium on the left side, fully two and a half inches long, and extending obliquely from before backwards. All the remaining thoracic and abdominal viscera presented an unusually healthy appearance, and were free from all traces of organic disease. The heart was normal in size, sound, but empty. Neither in the heart or pericardium was any evidence of previous or existing disease observed.

I may mention that the animal had been in the possession of his then owner for a space of nine months, during which period he had earned the character of being a splendid worker, but rather "keen," and had never suffered a day's illness.

I estimate the cause of rupture to be "some sudden exertion;" at the same time knowing the animal to be of a somewhat nervous temperament, and the load not to be an unusually heavy one in this town for horses at his age and in his condition, I consider that "fright" caused by one or more of the many passing objects, so well known in the vicinity of large railway termini, may reasonably have contributed to the production of the lesion.

INFLUENZA.

BY E. COURTENAY, JUN., ONTARIO VETERINARY COLLEGE.

(Continued from page 251.)

William Gibson, after describing the disease as it came under his observation, continues: "This disease, though no ways mortal, yet was so very catching, that when any horse was seized with it I observed those that stood on each hand of him were generally infected as soon as he began to run at the nose, in the same manner as Small-pox communicates the infection when it is upon the turn, the horses that escaped the distemper being chiefly those that were kept in constant strong exercise, or full-aged, old horses, many of which were in no ways affected, although very much exposed to it." As will be seen by the above, the theory of contagion is not one sprung into existence within the last few years, but, on the contrary, Influenza was a century and a half ago asserted to be contagious by Wm. Gibson, at that time

the best authority and most eminent veterinary surgeon in England, and who, a hundred years later, is frequently quoted by Percivall, and referred to by that great writer in terms of warmest praise. He further says, "I have known single horses seized with the same symptoms at other times when the distemper was neither infectious nor epidemical, and these were always relieved with bleeding and evacuants, especially with diuretics and diluters, giving them plenty of water-gruel or white water." Gibson's treatment, with the exception of bleeding, was very similar to the course of treatment pursued at the present time.

White published a volume about the year 1830, in which he says, speaking of Influenza :—"This disorder arises from different causes, and is brought on in some cases by the sudden application of cold and moisture when the body has been heated and somewhat exhausted by excessive exercise; it arises also from a peculiar state of the atmosphere, and then of course it is epidemic: it is of little importance in this case to know whether it be infectious or not; for if it depends on a certain state of the atmosphere, that state must prevail to a considerable extent."

Percivall very briefly alludes to the theory of contagion, saying that he merely mentions it to state his disbelief.

Woodroffe Hill, in his "Bovine Medicine and Surgery," states the disease to be highly contagious in cattle.

Professor Williams does not state positively what his opinion is on the subject of contagion, and seems to be in considerable doubt on this point; but as it is not included in the list of contagious diseases in his work on veterinary medicine, I think he must consider it to be a non-contagious disease.

Cullen, one of the highest authorities on human medicine, declares that Influenza, as affecting man, is undoubtedly a contagious disease.

Professor Smith, Principal of the Ontario Veterinary College, says :—"I am perfectly confident that Influenza is, under certain circumstances, a contagious disease, and may be due to germs so small as to be imperceptible to us."

Professor James Law, who has devoted a great deal of time to the study of Influenza, is a firm believer in the theory of contagion.

Now, having, I think, succeeded in satisfactorily proving Influenza to be a contagious disease, I will briefly notice a few of the more important views held in relation to the agent or specific material by means of which the disease is propagated.

There are three principal theories in regard to the nature of the contagium or virus itself. It is considered by some to be a ferment void of definite structure, and which, when introduced into the healthy body, is capable of producing zymotic changes in the blood and other fluids.

Others believe it to be a parasitic organism, originating outside of the body, but, on gaining access to the animal economy, is capable of development and increase within it, and probably consists of Bacteria.

The third theory is that the virus consists essentially of bioplasmic granules, possessing amoeboid movement, or, perhaps, a peculiar species of vital power, by which means they are enabled to migrate and multiply in the various fluids of the animal body, constituting micrococci. It is an indisputable fact that there are local inflammations in every contagious fever, and in every inflammation there is an abnormal increase of bioplasm, which is accounted for both by the influx of great numbers of wandering cells, and by retrograde metamorphosis of the tissues of the part. Beale speaks of great numbers of microscopic atoms under the name of "bioplasts"; he tells us "the minute contagious bioplast is less than the $\frac{1}{100000}$ th of an inch in diameter, and often so very clear and structureless as to be scarcely distinguishable from the fluid in which it is suspended." It has been conclusively shown that acute inflammations produced by chemical or physical means give rise to products which are of a contagious nature, and may be successfully inoculated; and Dr. Burdon-Sanderson tells us that he has successfully produced fever by the introduction of minutely small quantities of exudation liquids directly into the blood.

Most of the above theories have met with many weighty objections, a few of which I would like to notice, but as you are well aware the various theories and their several objections would make a large volume; and even though I had the necessary ability to go deeply into the subject, I could not do so in a

paper such as mine, which is necessarily restricted as to length. The bioplastic theory of Beale, however, seems to me to be the one best worthy of support, and after due consideration, is the one which, in my humble opinion, is the correct one. It certainly has not met with such strong opposition as the thousand-and-one other theories that have been given to the world. It is founded on actual observation and experiments scientifically conducted. Its plausibility is admitted by even its most pronounced opponents, and I certainly can see no reason why granular masses of organic material may not be conveyed either by direct contact, or through the medium of the air, from a diseased animal to another animal, which though free from any appreciable disease, may at the same time harbour a predisposition, thereby affording a favourable nidus for the reception of the contagium ; and the contagium being received, it exerts in due time its peculiar influence.

Reason and the greatest weight of evidence are on the side of this hypothesis ; however, we must remember that it is only an hypothesis, and not an established fact, and as such we must receive and investigate it with care before placing implicit confidence in it ; and in the meantime we must wait patiently yet awhile until new researches are made and more light thrown upon the subject, as at present it seems that this point will not admit of solution. In conclusion of this part of my subject, I will say that in my opinion before long everything relating to this disease will be made clear to us ; all those points which are now hidden in obscurity will have that darkness cleared away by the magic hand of science and brought to light, as many other wonderful and previously unsuspected facts have been brought to light within the last few years. At present, however, from the varieties of opinion held, and the multitudinous theories advanced, figuratively speaking Influenza is the rock upon which both professions have split, but more particularly is the veterinary profession divided on this point.

The disease begins with a chill, which is followed by febrile movement, heightened temperature, and thus the presence of fever is clearly indicated. Then coughing, followed by a discharge from the nose, showing increased action of the mucous

membranes, and on account of its peculiarities as to symptoms, complications, etc., we may regard it as a specific disease. Hence we are justified in arriving at the following conclusions:—

That Influenza cannot be considered as a local disorder, but, on the contrary, it is to be regarded as a general disease, the bronchitis, nasal defluxion, cough, etc., being merely the local expressions of a constitutional affection.

It is essentially a fever of a specific character—a peculiar species of fever—presenting well-marked catarrhal and febrile symptoms, and having for its anatomical characteristic inflammation of the great mucous track, but more especially showing itself in connection with the mucous membranes lining the air passages and other parts contiguous thereto. It is due to a specific poison which is received into the system, and according to the amount absorbed, the organs involved, or the susceptibility of the animal to the morbid influence, are the symptoms more or less developed and varied in character.

The causes of Influenza are predisposing and exciting.

Predisposing are—sudden changes of temperature, as in the spring and autumn, the disease being more prevalent during these months.

Crowding together of large numbers of animals in underground, damp, or badly ventilated stables, where the air is necessarily vitiated to a great extent; noxious emanations from heaps of decomposing animal or vegetable matters, stabling or pasturing in low, swampy situations, poor food, impure water, exposure, age, and excessive work, by causing debility, render the animal more susceptible to the influence. As it were, the soil is thus prepared for the reception of the seed, which, in the shape of the contagious principle, constitutes the “exciting cause.”

As to treatment, it will suffice to say that various medicinal agents are to be administered according to the symptoms presented.

Complications and results manifest themselves by the ordinary symptoms, and are to be treated in the usual way. In conclusion, I may say that, on account of the ever varying phases in which Influenza presents itself, it is very difficult, or even impossible, to assign to it any particular set of symptoms, and of course equally impossible to map out a definite course of treatment that will suit every case.

CATTLE DISEASE IN THE MADRAS PRESIDENCY.

BY J. MILLS, M.R.C.V.S., ARMY VETERINARY DEPARTMENT.

(Continued from page 256.)

Anthrax heads the list as being the most fatal malady, claiming no less than 73·40 per cent. of its victims. Variola Ovina follows, with a death-rate of 60 per cent.; next is Rinderpest, with 59·94 per cent.; and lastly, Epizootic Aphtha, which only kills 12·16 per cent.; the average for all diseases being 59·36 on the total of animals attacked.

From Appendix No. 4 it would appear that disease was at its height in the months of December, 1882, and January, 1883, during which period there was the least rainfall, when no less than twenty districts in the former and twenty-one in the latter month were affected. This, I consider, is in a great measure due to the sudden change of the season, from wet to dry, and the cold which prevails during these months. This conclusion will be borne out by the fact that disease began to subside as the warmer and more genial weather commenced.

The most prevalent malady has been Rinderpest, which visited the Presidency no less than forty-six times; Epizootic Aphtha follows, then comes Anthrax, which made its appearance only six times.

It must be observed that the cattle disease statistics received in this office often fail to specify the nature of the disease; hence a separate column has been opened for "Cattle disease not specified." I am inclined to think that the diseases comprised under this head must probably be Anthrax and Rinderpest, for these are, especially the former, difficult of detection.

Educational.

It would be out of place on my part, in this paper, to give a synopsis of the curriculum through which the probationers have to pass before entering the department, but I might mention that they attend all my lectures at the Agricultural College, and, in addition to this, they undergo a severe practical training, and particular attention is paid to instruct them in any subject in

which, at the monthly examinations, they are found deficient. Every precaution is taken to see that these men have a thorough knowledge of Contagious and Infectious Cattle Diseases, and the best modes of treating, arresting, and preventing them. In addition to this they are taught the use of all veterinary instruments, and to perform the most useful operations, such as castration, etc.

Veterinary Hospital.

This institution was opened on the 1st June, 1882, and has been working most successfully ever since. The buildings consist of a surgery, class-room, dissecting-shed, stables, a large cattle-shed, and a shed for out-door classes; also quarters for the hospital-keeper.

The hospital, with instruments and drugs, are under the immediate charge of the keeper. The following books are regularly and carefully kept, viz. :—

1. A register in which the description, result of treatment, etc., of each patient are entered.
2. A record for entering the full particulars of cases.
3. A recipe-book wherein all medicines expended are carefully noted.
4. A clinical chart-book, in which are recorded the variations of temperature, pulse, and respirations of all cases of any interest.

Up to date, 68 practical demonstrations were given, including operations and *post-mortem* examinations. The number of cases treated have been 118.

In the pharmacy 12,037 doses of medicine for the various forms of Cattle Diseases have been sent out to the districts. With few exceptions, the drugs employed are indigenous to India, are cheap, and can be procured locally. This is especially done for the purpose of illustrating to cattle-owners the benefits which can be derived from a judicious use of the resources they have always at hand in their own bazaars, and to prevent them, as far as possible, from pinning their faith on drugs other than those found in their own country and not always to be had.

The sanitary arrangements are carried on at the hospital on the most approved scientific principles. All refuse, dressing from wounds, etc., are carefully burnt in one of my cinerators.

A considerable number of morbid specimens has been collected, prepared, and carefully set up for teaching purposes.

The premises stand in a compound ten acres in extent, on the Government Experimental Farm, Saidapet, which is about five miles from the City of Madras.

In the garden attached are grown a large number of feeding and medical plants—the former for the use of patients, and the latter for teaching purposes. Special attention is devoted to the cultivation of those of a poisonous nature, which are found in the presidency and likely to be eaten by cattle. The probationers are taught to distinguish them and their particular properties; also, as far as we know, their antidotes. This I find most essential, because cattle are compelled, during certain seasons, to browse on almost anything green they come across, and it is on such occasions reports are sometimes sent to me which would seem like an outbreak of Cattle Disease, but is, in reality, due to these noxious plants.

Government gives liberal encouragement to experimental research at the hospital, and among some medicinal agents sent for experimental purposes was the seed of a plant called by the natives "Rudraksham," known technically as "*Elocarpus Genitras*," a member of the natural order "*Elocarpacæ*." The part used medicinally is the nut. It was said to have been given with great success by an European coffee planter on the hills, in an outbreak of Rinderpest which occurred on his estate, and that the natives of those parts employ it extensively as a specific for that disease. The dose used was the average nut, weighing about 40 grains, finely powdered and mixed with a pint of gruel. Rudraksham-nut is regarded in a religious light by the natives, and worn by them on occasions of Divine worship. I am told that the same medicine is employed by them as a specific for epileptic fits. It being most inexpensive—a few rupees purchasing some thousands of doses—I determined to give it a trial, and therefore sent 300 powdered nuts to the districts where Rinderpest existed. Their use, however, was evidently unattended with any unusual results; subsequently, the nuts were analysed by the Professor of Chemistry at the College, who reported them to contain a mild astringent property, but nothing more. I made

numerous experiments with them in every form and on many different animals, but found that they simply acted as a mild astringent. Therefore, I am inclined to think that the supposed attacks of Rinderpest must have been simply cases of Diarrhœa.

Slaughter-house Inspection.

Among other matters forced on my notice, none seemed more worthy of attention than the inspection of slaughter-houses, and especially those of the town of Madras. Therefore, one of my first duties was to place them under proper supervision, and I foresaw, in addition to the benefit the consumers of meat would derive from this measure, that my probationers would have ample opportunities of studying the various morbid conditions incidental to Indian cattle.

The principal disorders detected in slaughtered animals are Catarrhal and Eruptive Fevers; Congestion of the Lungs from overdriving (this is most frequent); Tape-worm; Amphistoma Conicum; Echinococcus Veterinorum; Œstrus-ovis; Strongylus Radiatus; and Tuberculosis.

REMARKS.

These few remarks will, I hope, prove acceptable to those who take an interest in such a subject, and may tend to illustrate still further the great need there is for a department of this description for the whole of the Indian Empire; and although, perhaps, the benighted Presidency may not be able to say that it is the pioneer in this matter, still I think it may claim to be the first to properly organize a Civil Veterinary Department.

Why are the subordinates not Europeans and qualified men?

This can be answered in a very few words.

1st. *Languages.*—To become thoroughly conversant with those of the Presidency would occupy years of hard study, because there are more than five dialects spoken, widely different from each other, and not as in Bengal, where Urdu and Hindustani predominate. Here one who is conversant with Tamil may go less than 100 miles, when he will find himself in a district where probably nothing but Telugu, Canausi, or some other dialect is spoken.

2nd. *Climate*.—Few constitutions would stand the hardships which have to be undergone in exposure to sun, monsoon rain, and malaria ; to say nothing of the risks which have to be encountered from contagious diseases, such as Cholera, Small-pox, etc., and it must be remembered, too, that in India, epidemics and epizootics, as a rule, go hand in hand. This is at present illustrated where, in the district in which I reside, Chingleput, severe outbreaks of Cholera, Small-pox, and Anthrax are raging at the same time ; and on comparing the health returns with the cattle disease statistics, I find this fact fully borne out.

Why are the natives employed as subordinates ?

Expenditure.—India is not, as many people consider it, an *Eldorado* ; far from it ; much may be received from it, but still more is required of it. The cost of employing qualified men would be great, and to be of any service a large number would be required ; whereas, trained and well-educated natives can be had at comparatively small salaries, and they, of course, are thoroughly conversant with the languages and habits of the people of their own district, which is a great *desideratum*, and would rarely, if ever, be overcome in a European. The men employed are entirely different to the *salootries* of Upper India, and take the greatest interest in their work, and, from what I have seen of them, they must prove hereafter of inestimable value.

Loss.—*What is to be understood by it ?*

The Ryot.—The loss of his cattle from disease simply means ruin, for they till his soil, and without them he is compelled to let his fields lie in fallow until, if ever, he is able to replace them. He is not the only loser ; even from the meanest rice consumer to the Government of India, all in their turn have to suffer. The former has to pay dearly for his rice, a commodity of everyday life, and the latter by an enormous loss of revenue.

What is to be done to prevent this serious loss ?

- 1st. A properly organised department.
- 2nd. Protective inoculation.

APPENDIX I.

Statistical Return of Cattle Disease in the Presidency of Madras, from 1st September, 1882, to 31st March, 1883.

No.	Districts.	Strength of Live Stock.				Number of Animals attacked with					Percentage of Attacks on Strength.
		Cattle.	Goats.	Sheep.	Total.	Rinderpest.	Anthrax.	Epizoot. Aphtha.	Sheep-pox.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12
1	Kistna ...	439,597	127,795	191,903	759,295	21,486	...	...	...	21,486	2·82
2	Kurnool ...	259,173	98,938	198,649	556,760	3,922	...	...	...	3,922	0·70
3	Vizagapatam ...	68,623	27,488	15,603	111,714	2,796	179	...	...	2,975	2·66
4	Trichinopoly ...	450,522	260,169	572,470	1,283,161	938	9	...	1,400	2,347	0·18
5	Coimbatore ...	531,725	245,653	354,154	1,131,532	856	168	344	...	1,368	0·12
6	Bellary ...	182,200	89,566	169,122	440,888	944	20	...	...	964	0·21
7	Tinnevelly ...	403,759	208,170	588,241	1,200,170	455	...	...	...	455	0·03
8	Chingleput ...	252,119	66,331	140,507	458,957	33	220	50	...	303	0·06
9	South Canara ...	512,388	9,209	211	521,808	1	27	185	...	213	0·04
10	South Arcot... ..	622,077	261,697	429,130	1,312,904	91	64	...	...	155	0·01
11	Ganjam ...	174,216	25,768	12,093	212,077	...	57	...	...	111	0·05
12	Godavari ...	370,958	55,855	45,307	472,120	60	...	...	...	60	0·01
13	Nilgiris ...	35,300	2,066	430	37,796	10	23	...	...	33	0·09
14	Nellore ...	235,626	76,952	201,371	513,949	14	...	...	...	14	0·002
15	Anantapore ...	182,508	98,897	241,250	522,655	8	...	...	...	8	0·001
	Total	4,720,791	1,654,554	3,160,441	9,535,786	31,614	767	633	1,400	34,414	00·36

APPENDIX II.

Return of Deaths from Cattle Disease, from 1st September, 1882, to 31st March, 1883.

No.	Districts.	Number of Deaths from					Percentage of Deaths on Strength.	Percentage of Deaths on Number of Attacks.				
		Number of Deaths from				Total.		Rinderpest.	Anthrax.	Epizoot. Aphtha.	Sheep-pox.	Total.
		Rinderpest.	Anthrax.	Epizoot. Aphtha.	Sheep-pox.							
		13	14	15	16	17	18	19	20	21	22	23
1	Kistna ...	13,039	...	...	...	13,039	1'72	60'65	...	...	...	60'65
2	Kurnool ...	2,272	...	...	...	2,272	'41	57'93	...	...	...	57'93
3	Vizagapatam ...	1,827	124	...	...	1,951	1'74	65'27	69'27	...	...	65'57
4	Trichinopoly ...	484	9	...	840	1,333	'104	51'58	100'00	...	60'00	56'79
5	Coimbatore ...	417	138	57	...	612	'054	48'71	82'14	13'66	...	44'73
6	Bellary ...	460	17	...	...	477	'011	48'73	85'00	...	...	49'48
7	Tinnevelly ...	305	...	...	...	305	'026	67'19	...	...	...	67'19
8	Chingleput ...	19	123	...	...	142	'03	57'87	55'90	...	...	53'18
9	South Canara ...	1	24	14	...	39	'007	100'00	88'22	7'56	...	18'31
10	South Arcot...	70	54	...	...	124	'01	76'92	84'37	...	...	80'00
11	Ganjam ...	...	57	6	...	63	'03	...	100'00	11'11	...	56'75
12	Godavari ...	34	...	...	...	34	'008	56'66	...	...	...	56'66
13	Nilgiris ...	10	17	...	...	27	'071	100'00	73'91	...	...	81'81
14	Nellore ...	4	...	...	...	4	'001	28'50	...	...	...	28'50
15	Anantapore ...	8	...	...	...	8	'002	100'00	...	...	...	100'00
	Total ...	18,950	563	77	840	20,430	0'215	59'94	73'40	12'16	60'00	59'36

APPENDIX III.

Analysis of the "Rainfall and Health of Cattle Statement," from 1st of September, 1882, up to 31st March, 1883.

Month.	Number of Districts Affected with			Cattle Disease not specified.	Total No. of Districts affected.	Average Rainfall, inches.	Remarks.
	Rinderpest.	Anthrax.	Epizootic Aptha.				
September, 1882	5	1	4	6	16	4·65	It will be observed that no less than 44 outbreaks were so vaguely reported in which no clue could be obtained to their precise nature; and this, if statistics are to be kept anything like correct, calls for remedy.
October "	6	1	4	7	18	4·31	
November "	6	2	3	8	19	8·78	
December "	7	1	4	8	20	1·10	
January, 1883	8	1	5	7	21	0·11	
February "	6	...	4	4	14	0·21	
March "	8	...	3	4	15	0·55	
TOTAL ...	46	6	27	44	123	19·71	

APPENDIX IV.

Statement showing the number of Cattle in each District for 1881-82. 

Districts.	Buffaloes.	Bullocks.	Cows.	Goats.	Sheep.	Re- marks.
	No.	No.	No.	No.	No.	
Ganjam ...	26,537	81,400	66,279	25,768	12,093	The figures refer only to Government *Ryotwari villages, and do not include the particulars for †Inam and ‡Zemindari villages, which are not available.
Vizagapatam ...	23,435	25,779	19,409	27,488	15,603	
Godavari ...	88,289	171,932	110,737	55,855	45,307	
Kistna ...	115,921	161,398	162,278	127,795	191,903	
Nellore ...	31,182	92,497	111,947	76,952	201,371	
Cuddapah ...	34,045	128,825	50,054	235,038	220,273	
Anantapur ...	26,847	89,013	66,648	98,897	241,250	
Bellary ...	11,757	120,883	49,560	89,566	169,122	
Kurnool ...	86,276	113,353	59,544	98,938	198,649	
Madras ...	1,920	2,710	2,130	736	2,160	
Chingleput ...	52,054	111,469	88,596	66,331	140,507	
North Arcot ...	71,320	188,926	207,156	274,836	155,489	
South Arcot ...	81,537	282,724	257,816	261,697	429,130	
Tanjore ...	120,813	301,713	193,238	200,592	211,250	
Trichinopoly ...	74,340	181,972	194,210	260,169	572,470	
Madura ...	46,389	211,921	225,409	215,582	303,977	
Tinnevelly ...	87,603	171,439	144,717	208,170	588,241	
Coimbatore...	42,550	254,426	234,749	245,653	354,154	
Nilgiris ...	11,137	9,614	14,549	2,066	430	
Salem ...	39,900	184,224	251,984	298,317	321,984	
South Canara ...	156,413	183,359	172,616	9,209	211	
Malabar ...	109,044	325,955	381,416	55,355	1,270	
Total ...	1,339,309	3,395,532	3,065,042	2,935,010	4,376,844	
Grand Total	15,111,737	

* Ryotwari villages are those, the people or ryots of which pay their revenue directly to Government.

† Inam villages are those which are given to people for some distinguished services done by them, without the payment of revenue.

‡ Zemindari villages are those which are in charge of large landowners who pay a certain amount of fixed revenue to Government.

The former I am in great hopes of seeing carried out. As regards the latter, energetic steps are now being taken to bring this about, but before introducing it into the districts, I have thought it desirable to institute a series of experiments. To enable me to do this, I have obtained a large supply of *Anthracine* direct from M. Boutroux, Paris, prepared by M. Pasteur. So far the experiments have been most successful, but have not been extended over a sufficiently lengthened period for me to draw any deductions from them, which might be considered as definite or of any value.

When they are completed, I will furnish full details to the VETERINARY JOURNAL.

I forward a statement showing the number of cattle in the Madras Presidency (see Appendix No. 4), which may prove interesting.

SPECIAL NOTES ON CANINE DISEASES.

BY J. WOODROFFE HILL, F.R.C.V.S.

HYDROPTHALMIA.

THE abnormal accumulation of fluid in the chambers of the eye which gives rise to what, in ophthalmic surgery, is termed "Hydrophthalmia," is a disease which has hitherto been unnoticed in the literature of canine pathology, probably owing to its non-recognition.

A hydrophthalmic eye is protruded from the socket, and looks as if it were about to burst; the eye-ball is hard and tense to the touch, usually of a dull opaque colour over the cornea, and the pupil is stationary.

In dogs, Hydrophthalmia generally involves both the anterior and posterior chambers of the eye. The distension caused by the dropsy produces considerable discomfort to the patient, vision is obviously impaired, and total blindness is a common sequel.

Causes.—A cachectic state of the constitution is favourable to Hydrophthalmia, but it may more frequently be traced to injury—particularly violent concussion to the eye-ball from a blow.

Treatment.—I have recently twice successfully tapped for this disease, puncturing immediately behind the outer margin of the cornea. In one operation I removed a drachm of clear watery fluid; in the other, half-an-ounce of a deep amber-coloured fluid, approaching red. After each operation the eye assumed its natural size and position; a cold wet sponge was placed over it and maintained *in situ* by a head cap. The sponge was re-applied daily for a week, and then a drop of a weak solution of iodine was each morning placed on the eyeball for the removal of the opacity, and I was perfectly satisfied with the result.

INVERSION OF THE VAGINA, (Amputation.)

This is a very common affection in aged bitches of a relaxed and debilitated condition of system, and which have been frequently bred from. I have known it also arise after connection, when the animals have been suddenly or violently separated.

Symptoms.—The presence or protusion of a red, soft, smooth body at the orifice of the vagina, easily returnable, but which is again, unless proper means be resorted to, quickly re-inverted. In chronic cases the tumour invariably remains persistent. Usually in vaginal inversion there is difficulty manifested in micturition, also considerable irritation, the bitch constantly licking the part; febrile disturbance is sometimes present. Not unfrequently inversion is mistaken for Polypus, an example of which has recently come under my notice, but to the experienced canine pathologist such an error cannot well occur.

In this case, the bitch—an aged toy—was sent to my infirmary from a considerable distance with instructions to remove a polypus, the owner having consulted, as he stated, “his doggie book on the matter.” An examination revealed it to be a chronic case of inversion. The usual treatment of plugging was resorted to, but owing to the advent of “œstrum” shortly afterwards, it was necessary in a few days after the return of the inversion and insertion of the sponge, to remove the latter, when the protrusion speedily followed. I subsequently wrote to the owner informing him that amputation was the only likely

measure to affect a permanent cure, the vagina having very little contractile power and the protrusion having existed so long. At the same time I warned him of a certain amount of risk that would attend the operation.

He decided to have the bitch back as she was, and then upon the day fixed for her return consented to the operation, which I performed on the 11th, under chloroform. Having drawn out the inversion as far as possible, I enclosed the mass in a carbolised tight ligature. On the 13th the tumour came away, and was followed by a slight discharge of matter; a little carbolised glycerine and water was poured into the vagina, and nothing further done. The bitch manifested no distress or irritation during the presence of the ligature, or after sloughing was accomplished, but fed and was as lively as usual, and is now (the 15th) fit to return home.

INTESTINAL ABSCESS AND HÆMORRHAGE.

These cases are not by any means unfrequent, and are usually produced by the irritation of a portion of bone becoming fixed for a time in the intestinal canal.

Two patients, one a mastiff, the other a bull-terrier, have recently been in my infirmary under these conditions, both discharging blood and pus *per rectum*.

The primary treatment consisted in a purely mucilaginous diet, and barley-water enemas until the irritating agent was expelled, and then the administration of perchloride of iron freely diluted. The hæmorrhage, though profuse in both cases, was soon checked, and the patients made good recoveries. When the hæmorrhage persists, or occurs at intervals, the administration of a pill composed of a grain each of tannic acid and opium, usually has the desired effect, and can be repeated if necessary.

ASCITES IN A FOWL.

BY THE SAME.

ON the 14th I received a Brahma Dorking hen from Elmsleigh Hall, near Leicester, with a request to kill her and make a *post-mortem* examination relative to her illness. I found the abdo-

men enormously distended with fluid, and resolved to try surgical measures before destroying the bird. On the 15th I tapped her with a small trocar and canula, and removed twenty-eight ounces of greenish-coloured but odourless fluid. Immediate relief was the result, the patient feeding as soon as she reached the ground. I purpose following up the case with the administration of iodide of potassium, and will report the termination.

I should mention that I tapped near to the flank, in order that there should be no likelihood of intestinal protrusion when the fowl was on its legs.

Editorial.

THE TERCENTENARY OF THE EDINBURGH UNIVERSITY.

THE three-hundredth anniversary of the greatest of the Scottish Universities, and in some respects the most important seat of learning in these kingdoms, was celebrated in a most splendid manner during the middle of last month, the celebration consisting of banquets, receptions, conversazioni, processions, concerts, and other festivities, covering four days. Invitations had been issued on a very lavish scale to home and foreign scientists and literary men by the University, and delegates and deputations from nearly every part of the world found their way to Edinburgh, to present congratulations to the University authorities on the auspicious occasion. Probably such an assemblage of learned men was never before witnessed in any country, and nearly every branch of science and art was represented. An extraordinary number of honorary degrees were bestowed on persons distinguished in their different spheres of usefulness, many of whom could not be present, and the occasion altogether was marked in a manner most befitting the antiquity, historical importance, and splendid position achieved by the University among all the universities of the world. Though the existence of the Royal College of Veterinary Surgeons was unacknowledged and ignored by the University, yet the veterinary profession must not allow the occasion to pass without venturing to offer its tribute of congratulation, humble though it be, on the event which has been so widely and joyfully recognised among learned bodies throughout the civilised world. The veterinary profession in this country has an additional reason for asking to be allowed to join the throng of congratulants, in that it feels that it owes a debt of gratitude to the Edinburgh University for the aid it has extended, for now many years, to veterinary education in the Scottish capital. The founder of the first veterinary school established in Scotland, received the initiatory portion of his medical instruction in that university, and its professors or graduates have ever since been, more or less, concerned in imparting knowledge on different subjects to

veterinary students ; while they also, until quite recently, assisted the Royal College of Veterinary Surgeons in carrying out the examination of candidates for its diploma in Scotland. Therefore, the occasion is one which affords an opportunity for conveying not only felicitations, but grateful acknowledgments for kindnesses and countenance bestowed on a young profession, which has had to fight desperately and wearily for every inch of advance it has been able to make.

In making this tender of goodwill and homage, however, we cannot but express the extreme regret we experience in learning that neither during the festivities nor the ceremonials which marked the University tercentenary, did the veterinary profession in Edinburgh, or out of it, receive the faintest recognition in any way, notwithstanding the fact that there are two veterinary schools in the Scottish capital, and that the connection between the profession and the University has not been productive of benefit to only one side ; for the latter, in assisting in veterinary teaching, has been benefited more or less directly, and more than one of her struggling *alumni* have had that pecuniary assistance which such tuition always merited and received. And it must not be forgotten that the handsome bequest of ten thousand pounds made by the late Miss Dick to the University, was provided for out of money earned in the practice of veterinary medicine by Professor Dick. We feel sure that the omission to recognise the veterinary profession, which has already done good work in advancing the science of medicine—preventive and curative—has been due to some oversight, and not to studied neglect. At any rate, it is some consolation to know that our eminent colleague, Professor Chauveau, Director of the Lyons Veterinary School, was present at the celebration, and received the honorary degree of Doctor of Laws.

We fear, however, that it was not because he is a distinguished member of our profession that he received this well-deserved distinction, but owing to the fact that he is a doctor of medicine, and therefore fit to be received into the scientific circle recognised by the Edinburgh University, which, with all its breadth of view, cannot yet emulate the sister University of Glasgow.

PROPOSED VETERINARY COLLEGE FOR IRELAND.

ON February 28th a special meeting of the Royal Dublin Society was held in the Lecture Theatre of the Society's House, Kildare Street, for the purpose of considering the report of the committee appointed in November last to report to the Council as to the most effectual means of founding an Irish College or School of Veterinary Surgery and Medicine, etc.

On the motion of Mr. John D'Olier, seconded by Mr. Rochfort-Boyd, D.L., the chair was taken by Sir George Hodson, Bart., D.L.

Amongst those present were—Lord Gough, Lord James Butler, Mr. George Woods Maunsell, D.L. ; Sir John Barrington, D.L. ; Mr. Moss, Hon. Mr. Montmorency, Mr. J. B. Green, G.B. ; Mr. Betagh, Mr. J. Ball Greene, C.B. ; Mr. V. B. Ball, Colonel Colthurst Vesey, D.L. ; Colonel Davoren, Mr. S. F. Adair, D.L. ; J. B. Davies, Professor Hull, Mr. Arthur J. Owens, Messrs. Walter H. Jones, J. H. Ferguson, Dr. Arthur Hill Curtis, C. Uniacke Townshend, T. B. Rutledge, Dr. E. D. Mapother, Alan P. Close, etc.

Professor FITZGERALD, F.T.C.D., read the following report :—

According to the reference of the society of November 8th, 1883, this committee is requested to report as to the most effectual means of founding an Irish College or School of Veterinary Surgery and Medicine, with independent powers of examining and of conferring diplomas. At the present time there is in the United Kingdom only one veterinary college with independent diploma-conferring powers—the Royal College of Veterinary Surgeons, London. The charter of that institution was granted in the year 1844, on the petition of a number of veterinary surgeons. It incorporated the licentiates of the Royal Veterinary College of London and the Veterinary College of Edinburgh; or, in the words of the charter, “of such other veterinary college, corporate or incorporate, as now is or hereafter shall be established for the purposes of education in veterinary surgery, whether in London or elsewhere in our United Kingdom, and which we or our Royal successors shall under our or their sign-manual authorise in that behalf;” and it further provided, “that the veterinary art as practised by the members of the said body politic and corporate shall be henceforth deemed and taken to be and recognised as a profession; and that the members of the said body politic and corporate, solely and exclusively of all other persons whomsoever, shall be deemed and taken and recognised to be members of the said profession, or professors of the said art, and shall be individually known and distinguished by the name or title of veterinary surgeons.” It will be observed that this charter applies to the entire United Kingdom of Great Britain and Ireland, so that at the present time the power to grant veterinary diplomas in Ireland is vested in this London Corporation. If a veterinary college were established in Dublin, with proper arrangements for the instruction of students, there would probably be little difficulty in arranging with the Royal College of Veterinary Surgeons, London, for the holding of examinations in Dublin, and for granting the diplomas of the London College to those who should pass these examinations satisfactorily, as is done at present in Edinburgh and Glasgow. The committee has not, however, collected any information on this point, as the resolution under which they were appointed refers to an institution having independent diploma-conferring power. The most effectual means of securing this power would be by incorporating a body in Ireland with such powers as are now exclusively possessed by the Royal College of Veterinary Surgeons, London. In reference to the more general question of founding a veterinary college, the committee beg to refer to the report of a committee appointed in 1866, to consider and report upon the feasibility of founding a veterinary school in connection with the society. Their report to the council, dated August 29th, 1867, is to be found in the printed minutes of the council (Proceedings, vol. 104, page 5). It is necessary to take into consideration that the circumstances of the society have materially altered since that report was prepared, seventeen years ago; and the society must now take a very different position in regard to the scheme. At that time it was proposed that the Royal Dublin Society should take upon itself the responsibility of founding a veterinary college. This committee is, however, of opinion that such a course would not now be desirable. In order to appreciate the difficulties to be overcome, it is necessary to examine the question from a financial point of view. With this object the committee have prepared an estimate of the probable receipts and expenses of the institution. The sum required to erect suitable buildings, including an infirmary, cannot be estimated at less than £3,000; and if the institution is to be started on a scale calculated to compete successfully with similar institutions in England and Scotland £5,000 will probably be required. The chief annual expense would be the payment of the necessary staff of professors.

With the view of accurately estimating this item, the committee have drawn up a curriculum, which they beg to append. For the payment of the six professors required an annual sum of at least £700 would be necessary. It is difficult to form any estimate of the probable number of students, but assuming that there are about fifty, the fees received would be, say, £500. The receipts and expenditure would then stand thus: Income, £500; expenditure, £1,300; expenditure in excess of income, £800 per annum, exclusive of the interest of the capital sum invested in buildings. In this estimate it is assumed that no income is derived from the infirmary and veterinary establishment. The committee is of opinion that if the infirmary and veterinary establishment were managed under proper conditions by a perfectly independent body, that would be free to act on a commercial basis, it would not only pay its own expenses, but would also pay all the expenses of teaching, and render the entire establishment self-supporting. The Scottish institutions are managed on this principle, and this seems to be largely the secret of their success. Such a plan involves entering into competition with the veterinary surgeons in Dublin—a course that would not be consistent with the character and position of the Royal Dublin Society. A vote in aid might possibly be obtained from Government, but it cannot for a moment be supposed that the Royal Dublin Society could allocate £800 a year to a veterinary college. Finally, however desirable it may be to secure for Ireland proper facilities for veterinary instruction, the Royal Dublin Society ought not to undertake such a task, as it cannot with propriety adopt the most effectual means for attaining the object in view. On the other hand, the society might very well aid an Irish Veterinary College in the same way that the Royal Agricultural Society of England and the Highland and Agricultural Society of Scotland aid the English and Scottish Veterinary Colleges, *i.e.*, by grants in aid, and by offering prizes to be competed for by the students.

Mr. JOHN D'OLIER proposed the adoption of the report.

Mr. G. A. ROCHFORD-BOYD, D.L., in seconding the motion, said he was anxious, as chairman of the committee, that they should, if possible, arrive at a report favourable to the establishment of a veterinary college in Ireland; but on each day that the committee met, and they met five or six times, difficulties presented themselves. He did not think it necessary to refer to the report further than this—to say that this society would not be justified in undertaking an expenditure of £800 to found an Irish Veterinary College. It was quite possible that if such a college were founded by persons outside the society, the society would give some substantial assistance. It was not at all desirable that this society should come into competition with veterinary surgeons. If this society established an infirmary, it would be absolutely impossible to carry it without withdrawing from the business done by veterinary surgeons in practice.

Mr. J. H. FERGUSON said that the report now received was not in accordance with the evidence brought before the committee, nor with the action of the committee in reference to its own resolutions.

Professor HULL submitted that Mr. Ferguson was not in order.

Mr. FERGUSON, however, was permitted to proceed. He said that one of the first resolutions passed by the committee was that the Royal Dublin Society be recommended to apply for a veterinary charter to grant diplomas. How far that was in accordance with the report brought up it was for them to judge. On the same day a resolution was passed by a sub-committee to draw up a report of the scheme which they had just heard. On the 19th of December this resolution was passed:—"That this committee having progressed to an important stage in their deliberations, consider it most desirable that they should have an opportunity of conferring with the existing Charter Committee of the society, as it appears to them that there are important pro-

visions in the new charter that would greatly facilitate the establishment of a new college." The resolution of the Veterinary and Charter Committee was as follows:—"That in the opinion of this joint meeting a supplemental charter could give the society powers to grant licences, and that a supplemental charter would be the best way for obtaining those powers." The report now read, on an examination of the committee, was not in conformity with the committee's antecedent resolutions. He disagreed with the report, as it was not in accordance with the resolutions of the committee, and of the joint-committee of the 27th of January last. It was said that if they were to have anything to do with the college they would have to come under the surveillance of the Science and Art Department. Well, he was alone, yet he succeeded in bringing the society to a sense of its position. They were, in fact, never in a better position than they were now. They were free from the Science and Art Department. They were now a society, having obtained a grant, and they had more than £15,000 of that unoccupied. Could anything be more usefully employed than the application of a portion of that grant to the foundation of this college? It was erroneous to say that the society was not in as good a position as it had been in. Were they to be told this society would suffer in its dignity by the establishment of an institution such as this? He had been always told that this society was anxious in every way to advance the interests of this country. He did not think that the society's dignity would be in any way lessened by following up what it had previously done. It was said it would be undignified—that, indeed, the Royal Veterinary College in London took sixpenny fees; that they could get a cat cured there for sixpence. Now the fact was that the lowest fee was 10s. 6d., 21s. for a horse, and so on. He believed that this question would not end here, and that it would come before the outer public.

The report was then put and adopted, Mr. Ferguson being the only dissident.

The proceedings then terminated.

REPORT TO THE COMMITTEE OF THE BROWN INSTITUTION FOR THE YEAR 1883.

BY THE PROFESSOR-SUPERINTENDENT.

THE sphere of usefulness filled by the Brown Institution has been rapidly extending since the date of its foundation, every year showing a larger and larger number of cases of diseased animals belonging to the poor treated within its walls. The increase in the number of cases treated during the year 1883 over that of the year which preceded it is, however, considerably greater than any annual increase which has been recorded during the existence of the Institution. This acceleration in its development is, it may be noted, to be ascribed partly to the fact that the printed fly-leaf which has been distributed during the past eighteen months has made the advantages of the Institution known to a large number of owners of animals who would not otherwise have heard of the Institution; but it must also be ascribed in part to the attention and care which have been devoted to the work of the clinical department of the Institution by the Veterinary Assistant, Mr. E. Batt. The following figures show how considerable has been the work of this department for the year 1883. During that year the total number of visits paid to the Institution by diseased animals was 5,532, while the number of cases treated was 3,282, consisting of the following animals:—1,736 horses, 87 asses and mules, 872 dogs, 195 cats, 289 chickens, 24 goats, 31 rabbits, and 48 birds and various small animals.

The diseases are classified as follows :—

Injuries	...	...	...	...	...	...	486
Diseases of Limbs, including Lameness	...	...	...	...	...	...	703
„ Respiratory System	...	...	...	...	...	...	614
„ Digestive	„	...	...	...	...	...	391
„ Cutaneous	„	...	...	...	...	...	239
„ Nervous	„	...	...	...	...	...	107
„ Special Sensory	„	...	...	...	...	...	61
„ Genito-Urinary	„	...	...	...	...	...	50
„ Lymphatic	„	...	...	...	...	...	24
„ Circulatory	„	...	...	...	...	...	18
Glanders and Farcy	...	...	...	...	...	...	20
Rabies	...	...	...	...	...	...	9
Distemper	...	...	...	...	...	...	168
Influenza	...	...	...	...	...	...	14
Parasitic	...	...	...	...	...	...	316
New Formations	...	...	...	...	...	...	38
Poisoning	...	...	...	...	...	...	11
Old Age	...	...	...	...	...	...	13
Total							<u>3,282</u>

Of the above cases 206 were admitted as in-patients, of which, after varying periods of treatment, 152 were discharged cured or convalescent, twelve were relieved, thirty died, and twelve were either discharged as incurable or else destroyed.

The work of the last year shows a marked increase in the number of in-patients, being thirty-four more than in the year 1882. The total number of new or fresh cases exceeded those of 1882 by 479, while the total number of visits paid were 994 above the year 1882.

With regard to the diseases treated, the most noticeable feature wherein the present list differs from those of former years consists in the increase in the number of cases of Distemper, for which increase no very evident cause can be found. The total number of dogs, as compared with other animals, is, indeed, proportionately greater than in previous years, but this will not explain so great an increase in the number of cases of Distemper. The other diseases call for no special comment.

With regard to the scientific work of the Institution I have to report that the annual course of lectures was delivered by me in the Theatre of the University in the early part of December, 1883, the subject being “On Preventive Inoculation for Zymotic Diseases,” in which, besides giving a brief description of the nature and objects of the Brown Institution, with a short history of the work done within its walls since its foundation, I gave an account of the results of my investigations in South America.

With regard to this latter subject I may remind the Committee that in March of the past year I applied for leave of absence for three months (subsequently extended for six weeks) for the purpose of proceeding to the Argentine Republic in order to investigate a disease of unknown nature which was causing great mortality amongst the cattle, sheep, and horses, as well as men. This disease I found, on my arrival at the River Plate, to be Splenic Fever, and I was unusually fortunate in being able to make a large number of observations on its nature and on the best means of combating it by protective inoculation. I cannot give here even a brief account of the results of my work on this subject, and will only mention in this place that I was able to find a method of effectually protecting cattle and horses from

this affection by inoculating them with mitigated virus obtained by transmitting the poison through the "Bizcacha" or prairie dog. The virus so reduced in strength was found suitable for protecting cattle and horses, and the method is now being employed successfully on a large scale in the Argentine Republic. I made also a large number of inquiries regarding the most effectual method of protecting sheep from the same disease, and the results of my work on this subject have been, briefly stated, to confirm the assertions of Pasteur on the mitigation of Anthrax virus by cultivating the micro-organisms, which cause the disease, at a temperature of 42° Centigrade. My observations showed, however, that certain precautions are necessary in carrying out this method, and that without these failure is almost certain.

This expedition has occupied me during the greater part of the year, and the investigations which I am carrying on on Distemper are still uncompleted, although they are now making a satisfactory progress.

Regarding the other investigations being carried on in the Laboratory of the Institution, I may notice an important observation made by Mr. Lingard, who, in conjunction with Mr. E. Batt, recorded early in the year the results of his work on a new and hitherto undescribed disease of cattle.

This disease consists in an infectious ulcerative affection attacking the skin and mucous membranes, especially of the mouth, of young cattle, and accompanied by serious constitutional symptoms. They found the tongue and the mucous membrane of the cheeks the usual localities of the primary lesion. The typical ulcer consists, in advanced cases, of a sore with overhanging edges, and which is found on section to be made up of necrosed tissue, this necrosis being readily communicated to other parts of the mouth with which it comes in contact, and the local affection tending in this way to spread rapidly. In some cases similar necrotic changes were found in the lungs.

The cause of this Noma-like affection was, apparently, a characteristic micro-organism, since, all along the line of junction of the necrotic with the healthy tissue, they found an enormous number of bacilli of a specific form, the growth of which, apparently, caused the necrosis. From their observations they conclude—

1st. That the necrotic process corresponds accurately in extent with the presence and position of these characteristic micro-organisms.

2nd. That the disease may be communicated by inoculation, the affection thus produced being characterized, like the parent disease, by the presence, in vast numbers, of the same kind of micro-organism.

3rd. That these bacilli do not diminish in virulence by successive inoculations for several generations.

Mr. Lingard and Mr. Batt are still actively engaged in carrying on their investigations on this important subject.

A considerable number of interesting and important facts have been learned by Dr. Klein on the subject of Anthrax, Tuberculosis, and Typhoid of pigs, which are, however, of too technical a nature for description in such a Report as this.

I may mention that I propose, in conjunction with Dr. Theodore Cash, to extend a certain number of the observations which I made in South America on the subject of protective inoculation of Anthrax, a subject which seems to me of a kind especially fitted to be investigated at the Brown Institution.

FOOT-AND-MOUTH DISEASE IN AMERICA.

FROM recent investigations in the regions in the United States where it was reported Foot-and-Mouth Disease had appeared, it is now reported that this malady has only as yet manifested itself in Maine, where it seems to be subsiding, energetic measures having been adopted to suppress it. Elsewhere, what is designated Foot-rot (in Kansas supposed to have been caused by ergot in wild rye, a great proportion of which was present in the prairie hay) appears to have been mistaken for the epizootic disorder.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

QUARTERLY MEETING OF COUNCIL, HELD APRIL 9TH, 1884.

Dr. G. FLEMING, President, in the Chair.

Present.—General Sir F. Fitzwygram ; Professors Pritchard and Axe ; Messrs. Harpley, Cartledge, Walters, Dray, Whittle, Cartwright, Simpson, Duguid, Cox, Greaves, Simcocks, Blakeway, Taylor, Woods, Reynolds, Perrins, Wragg, and the Secretary.

Mr. DRAY proposed that an address be sent to Her Gracious Majesty and the Duchess of Albany, expressing the Council's sincere regret at the death of Prince Leopold. The Prince, he said, was beloved by everybody who had the pleasure of knowing him.

The PRESIDENT seconded the motion, and in doing so said the loss which Her Majesty and the Duchess of Albany had sustained was also a loss to the whole nation. The Duke of Albany was one of the most promising princes this country had ever known. The interest he took, more particularly in the condition of the poorer classes, endeared him to all the people.

The resolution was unanimously agreed to, and the drawing up of the letter was left to the President and the Secretary.

The minutes of the last meeting were taken as read.

Correspondence.

The SECRETARY announced that letters had been received from Professor Walley and Mr. Santey, regretting their inability to attend the meeting.

Donations to the library and museum were then announced :—*The Propagation of Tuberculosis* by the President, and various works presented by Mr. Charles Percievall ; a skeleton of a tiger by Mr. W. D. Gunn.

On the motion of Mr. DRAY, seconded by Mr. CARTWRIGHT, a vote of thanks was passed to the donors for their contributions.

An application was read from Mr. Morris, of Aberdeen, for the diploma of the Royal College of Veterinary Surgeons. He was the holder of a Highland and Agricultural Society's certificate, and his letter was certified by Professor Walley.

The diploma was ordered to be granted to him.

Mr. DRAY read a letter from Mr. Broughton, the Hon. Sec. of the Yorkshire Veterinary Medical Society, remitting a cheque for £100, from that Society, as a donation to the Building Fund of the Royal College of Veterinary Surgeons. He moved, "That a letter of thanks be forwarded to the Societies for their handsome contributions to the Royal College of Veterinary Surgeons."

Mr. CARTWRIGHT seconded the motion, which was agreed to.

The PRESIDENT stated that he had written to Mr. Lennox Peel, asking him to ascertain whether the Lord President would receive a small deputation on the subject of obtaining assistance from the Government towards erecting a building for the College, and he received a reply to the effect that the Lord President had ascertained that nothing could now be gained by an application to the Government, and therefore it would be unnecessary to receive a deputation.

A letter was read from the executors of the late Mr. William Field, stating that they were satisfied that £1,000 had been contributed from other sources towards the Building Fund, and stating that they would therefore forward the £1,000 left by the will.

A letter was read from Mr. James Walker, of Glasgow, with regard to the final examination.

The SECRETARY announced that several complaints had been received from members of the profession with regard to men who were illegally using the title of Veterinary Surgeon. Among others there were complaints of Mr. Parker, a registered practitioner, who, notwithstanding a letter sent to him, continued to put on his billheads, "Mr. Parker, Royal College of Veterinary Surgeons, London."

The SECRETARY was directed to write again to Mr. Parker, telling him that proceedings would be instituted against him if he did not discontinue the use of the name of the College.

Letters were announced from several members of the profession complaining of men using the title "Veterinary Surgeon," when they were not even registered, and asking if they might take proceedings against them.

Mr. CARTWRIGHT proposed, and Mr. WHITTLE seconded, that the Council should institute proceedings against such persons as the President and Committee thought fit.

Mr. HARPLEY said the Council were in a very anomalous position with regard to their solicitor, Mr. Wilkinson, who had refused to resign.

Professor PRITCHARD thought the appointment of Mr. Wilkinson should be cancelled at once.

Mr. WALTERS agreed with Professor Pritchard.

Mr. SIMCOCKS thought it would be advisable for the Council to get up a test case.

Mr. CARTLEDGE said he did not think the Council had any right to spend money on such prosecutions.

The motion was put and carried.

Two letters from members relating to John Strand, who was a canine surgeon and chiropodist, were referred to the Registration Committee for inquiry, as was also another letter complaining of Messrs. Finch and Son calling themselves veterinary surgeons when they were not registered.

Resignation of an Examiner.

A letter was read from Dr. Volcker resigning his position as examiner in consequence of ill-health.

On the motion of Mr. DRAY, seconded by Mr. CARTLEDGE, the resignation was accepted, and thanks were accorded to Dr. Volcker for his past services.

Mr. CARTLEDGE proposed, and Mr. DRAY seconded, that Dr. Volcker, jun., be elected in the place of his father.

Mr. SIMCOCKS proposed an amendment to the effect that the election be deferred until the next meeting of the Council.

Mr. CARTLEDGE seconded the amendment, which was carried.

Matriculation.

A letter was read from Professor McCall complaining that the examiners were not representative of the profession in the three divisions of the kingdom.

The PRESIDENT said Professor McCall talked about the Council as if it were a body entirely independent of and acting against the profession, but there could not be a greater fallacy ; every member of the profession had a vote, and therefore the Council was part and parcel of the profession itself. If any blame was to be attached to the examiners, it must be attached also to the Council ; and if to the Council, to the profession who elected them.

On the motion of Professor PRITCHARD, seconded by Mr. SIMPSON, the letter was ordered to be laid on the table.

A letter was read from Professor Walley directing the attention of the Council to certain matters.

The PRESIDENT suggested that it would be prudent to write to the schools and ask when their pupils would be ready for examination by the College of Preceptors, but he did not think they should bind themselves down to the College of Preceptors, if there was any other body in Scotland competent to undertake the preliminary examinations.

General Sir F. FITZWYGRAM said the Royal Veterinary College wished to know whether the Royal College of Veterinary Surgeons would undertake the preliminary examination of the students before they entered the Royal Veterinary College. If they would, the Royal Veterinary College would willingly hand over the Matriculation Examination to them.

Mr. TAYLOR moved that the Council undertook the Matriculation Examination of those colleges which wished them to do so.

Professor PRITCHARD thought that the Charter did not give the Council the power to do so.

The PRESIDENT said it was a matter of arrangement with the schools.

Mr. SIMCOCKS seconded the resolution.

Ultimately it was decided to summon a committee to consider the whole question of the matriculation.

A letter was read from Mr. Cunningham, asking if the memorial which he sent to the College some time ago might be returned to him. The request was acceded to.

Report of Examiners.

The SECRETARY read the Reports of the Court of Examiners for Scotland, and the Report of the Examinations for the Royal Agricultural Society's prizes.

The REGISTRAR read the obituary notice.

Registration and House Committees.

The Report of the Registration Committee was then read, and also the Report of the House Committee.

The latter committee were instructed to see the owner of the property and ascertain whether he would be willing to rebuild the house for the College, and upon what terms.

Finance.

The Report of the Finance Committee was read.

Mr. DRAY moved that the Report be received and adopted, and in doing so he said a very small surplus was left after the expenses were paid out of the examination fees for Scotland. He also drew attention to the fact that the expenditure for the annual dinner of the College from 1881 to 1883 was £97 5s. 6d. That sum had been in his opinion misapplied for the invitations to guests, music, cigars, etc.

The PRESIDENT said the expenses had been incurred with the sanction of the Council.

Mr. WHITTLE thought the Council ought not to pay a shilling for the annual dinner out of the funds of the College.

Mr. SIMPSON considered that no hard and fast line should be drawn.

Mr. HARPLEY was of opinion that Mr. Dray was perfectly right in bringing the matter before the Council.

Mr. REYNOLDS seconded the motion for the reception and adoption of the Report, which was carried.

Cheques were ordered to be drawn for the current expenses.

The Council then proceeded to consider the motion of which Mr. Simpson had given notice, with regard to the docking of horses. Letters were read approving of the motion from the Royal Counties Veterinary Medical Association, the Yorkshire Veterinary Medical Society, and the Midland Counties Veterinary Medical Association.

Professor PRITCHARD objected that it was not the proper business of the Council to discuss this subject; he therefore asked the President to rule that Mr. Simpson was out of order in bringing forward his motion.

The PRESIDENT said he was not aware that such a subject had ever before been discussed by the Council. If docking was a necessary operation, it was legitimate; if it was not necessary, it was not legitimate if it caused pain. If, however, the operation had to be performed, it should be by a graduate of the College; but he was very much afraid that the public would not be bound by the dictum of the College.

Professor AXE moved that the subject was a proper one for discussion by the Council.

Mr. TAYLOR seconded the motion, which was carried by thirteen votes to five.

Mr. SIMPSON moved "That the Council of the Royal College of Veterinary Surgeons hereby affirm that the operation of docking horses is a surgical operation requiring skill and anatomical knowledge for its humane performance, and that there are many circumstances which render the operation necessary, when it should be performed only by veterinary surgeons." He said the veterinary medical associations represented the opinions of the practitioners residing in their districts. He wished to approach this question without passion or prejudice of any kind. Six veterinary medical associations had written to him expressing approval of his motion, and though the members of the Council were not mere delegates to vote as they were told, they must be careful not to lose touch of their constituents, and if they knew what was wished they should give it a careful consideration. What was the cause of this agitation? It appeared that the Royal Society for the Prevention of Cruelty to Animals instituted proceedings against some men for improperly performing docking. That Society did a beneficent work, and had no better supporters than the members of the veterinary profession; but it was surprising to find some of the stars of the profession holding most extraordinary views on the subject of docking. Veterinary surgeons had been taught that it was a necessary operation, and was practised before the profession existed, but now they were told that it was unnecessary and cruel. At the present time, therefore, the members of the profession were under a reign of terror, and dare not perform what they considered a necessary operation without running the risk of prosecution. In all large and well-constituted bodies there were talented men holding large views and going on in advance of their time, but as years went on their opinions became toned down and modified, and their views ought not to override those of the majority. It was a known fact that some gentlemen who now held advanced views had at a former period in their career been of an entirely different opinion, and therefore it was not

desirable for the profession to follow them absolutely. Some correspondence had taken place on the subject of docking, and it would save time if he at once read what had appeared in the *Field*. His notice of motion having been mentioned in that paper, a letter was sent stating that it was likely to mislead the readers "by inducing them to believe that the Council is in favour of this fashionable operation." The letter went on to say: "Nothing could be further from the truth. The President of the Royal College, Dr. Fleming, who is also principal veterinary surgeon to the army, has opposed the practice by voice and pen for years, while Gen. Fitzwygram, Bart., Inspector-General of Cavalry, Professor Pritchard, and other leading members of Council, are hostile to it. When Mr. Simpson gave notice of the motion, he was duly apprised of the reception it would meet with when it came on for discussion—an event which is not very likely to occur, as it is not the province of the Council to discuss such matters, and the terms of the motion savour too much of trades unionism to be tolerated by professional men. Into the question of docking I do not venture at present further than to state that, except as a remedy for disease or deformity, there is not a word to be said in its favour, and that I believe all those members of the veterinary profession who are not pecuniarily interested in the operation, and are in a position to give an impartial opinion, consider it unnecessary and cruel. As evidence of what the leaders of the profession think of it, and the arguments that may be brought against it, I may refer to the editorial article in the VETERINARY JOURNAL for this month." That letter was signed by a member of the Council of the Royal College of Veterinary Surgeons, and therefore, for aught he (Mr. Simpson) knew, the writer was present at this meeting. He took the liberty of replying to that, and simply stating his case, and his letter appeared in the next week's *Field*. It was as follows:

"Sir,—Permit me to explain my reasons for bringing on a motion, defining the position of the veterinary profession in regard to docking, at the next quarterly meeting of the Council of the Royal College of Veterinary Surgeons, the said Council being the only body in existence with parliamentary responsibility for the good order and government of the profession. At the present time the profession contains a large and influential body of law-abiding citizens, and they are perplexed, not knowing their true position with regard to docking, since convictions for cruelty to animals have followed the performance of the operation, which as students at the Royal Veterinary College they were taught how to perform, and were instructed was necessary.

"A conviction to a veterinary surgeon is a serious matter, but his punishment does not end there; for by the terms of the Veterinary Surgeons Act, which only came fully into operation on January 1st last, the Council may rule such conviction is (in the words of the Act) 'disgraceful to him in a professional respect,' whereupon his expulsion from the profession and utter ruin follow.

"But let us see whether the cause of humanity is served. Supposing veterinary surgeons, out of dread of a conviction or from any cause, refuse to dock the horses of their clients, will those horses remain undocked? Will the breeder, the dealer, and the horse-keeping public of the United Kingdom agree to surrender their ideas on docking, which are founded on experience and proved to be correct? To both questions I answer *No*.

"Instead, therefore, of the operation being performed judiciously and skilfully by a surgeon, the owners, failing surgical aid, will call in somebody to operate; and then will result a state of things the very reverse of what those who find the means for the crusade against docking desire or expect.

"The docking will be done, but it will be done surreptitiously by unskilled hands; and, alas! in such a way as to well justify a conviction for cruelty, which the operator by performing in secret will take care to avoid.

"Surely, while the subject remains a 'burning question,' which time or the Legislature alone can settle, even those who abhor docking will see that my motion establishes the *modus vivendi*, insuring that which all parties in the cause ought to desire, viz., humanity in the performance of the operation, and fair play to the veterinary surgeon until docking is legally abolished.

"I purposely leave unanswered the remarks and opinions of your anonymous correspondent of last week, until (if ever) he enunciates them at the Council Board.

"Windsor, February 14th."

"HENRY L. SIMPSON,

"Member of Council R.C.V.S.

In his opinion the Council would lose caste if it refused to take up this matter and adjudicate upon it. He knew for a fact that there were many justices who were very anxious to have an expression of opinion from some such body as the Council of the Royal College of Veterinary Surgeons. A case might be elaborately got up by the Royal Society for the Prevention of Cruelty to Animals, and on the other side a prisoner who merely said, "I was taught to do it," might be utterly ruined. A resolution such as he proposed would greatly assist the justices, and the accused would be able to say that the Council had decided that the operation was necessary, and if he could prove that he took every reasonable precaution, and did not act with any cruelty, a conviction would be very difficult. He appealed to those who differed from him to allow the opinions of the majority of the profession to have fair play, and while they agitated in every loyal and constitutional manner, not to prosecute their own flesh and blood.

Mr. DRAY said the profession and the majority of the Council must be very much obliged to Mr. Simpson for bringing this subject forward. Having retired from the profession twelve years since, he could not be said to be actuated by any interested motive, and he heartily seconded Mr. Simpson's views. When he was in practice he never allowed any assistant to perform the operation, and very seldom indeed used the actual cautery. A great deal of mawkish sentimentality prevailed about this question, and no legislative enactment would abolish the operation.

Mr. GREAVES said he had held the opinion that it was not right that the Council should be made a debating society on any surgical subject, but since he had read the resolution brought forward by Mr. Simpson, he had altered his opinion, and he thought the Council would be quite in order in discussing it. The Yorkshire Association and the Midland Counties Association were almost unanimously in favour of it. A veterinary surgeon might be a cruel man in the performance of an operation, but he must be grossly cruel before he (Mr. Greaves) would think he should be prosecuted for it. The question should be left to the discretion of veterinary surgeons without any interference from the Royal Society for the Prevention of Cruelty to Animals. He would not say that indiscriminate docking was proper, but in his opinion there were cases in which it might be beneficially performed.

Professor PRITCHARD considered that the Council was not the proper place to discuss this question. He was quite prepared to talk about it with any thoroughly qualified gentlemen, but at the end of the discussion no doubt it would be six of one and half a dozen of the other. He would not raise the question whether docking was right or wrong, but he was sorry the matter had been discussed in that room. It was all very well to say that one paragraph of the bye-laws made the discussion admissible, but the preceding paragraph showed that it was not. He defied any member to say that such a subject had ever before been dealt with by the Council. Mr. Simpson's proposition was directly opposed to the law of the country. He did not consider this was the proper time to discuss it, but he would have an opportunity of doing so at Manchester, where he believed he was to be hung, drawn,

and quartered. He did not think that docking horses had one toe, let alone a leg, to stand upon, and he asked the Council to think twice before they carried Mr. Simpson's motion. Two appeal cases had been taken to the High Court—one before Chief Baron Kelly, and the other before Mr. Baron Cleasby, and in both instances it was declared that docking was illegal. The resolution, if passed, would therefore be in opposition to the law of the country.

Mr. REYNOLDS suggested that it would be better if the resolution stopped at the word "necessary."

Mr. SIMPSON said that men who occupied a high position, and who were supporters of the Royal Society for the Prevention of Cruelty to Animals, had said to him, "If we only had some rule for our guidance we should be comforted, but we hear such awful opinions about the cruelty of the thing that we do not know what to do." The resolution, if passed, would not prevent anybody from docking a horse, and it would be absurd for him to say that nobody but a veterinary surgeon could perform the operation. He had not the slightest feeling in the matter; and if it was the opinion of the Council that the latter part of the resolution should be expunged, he was quite willing to consent to it.

Mr. CARTLEDGE said the operation of docking was too simple not to be performable by a great number of persons.

Mr. HARPLEY said he could understand Mr. Simpson taking the matter up, because he happened to be a Justice of the Peace for Windsor, and therefore could not perform the operation of docking a horse, which at the present moment was believed to be illegal, and expect to remain any longer a magistrate. But the question affected the whole body of the profession. The Council were in a very difficult position, and he suggested that without passing any resolution, a small deputation might be appointed to wait upon the Home Secretary to state that they had discussed the matter, and that under certain circumstances docking was necessary.

The PRESIDENT said he clung to the opinion that this was not a proper subject for discussion by the Council. His opinion was that unnecessary amputation of the tails of horses was cruelty, but necessary amputation was not cruelty. Docking, as a mere matter of fashion, was cruelty, and he did not care who said to the contrary. In the case which had given rise to this discussion, he was subpœnaed to give evidence, and in the witness-box he stated the same opinion that he had now put before the Council. The animal in Wales had its tail amputated not to make it more serviceable, but to make it more valuable, and the operation described in court was performed by a member of the Royal College of Veterinary Surgeons in a most brutal manner, for he heard that he seared the tail for half an hour with a red-hot iron. The operation when performed in that way would be condemned by the majority of the profession, and was a fit case for prosecution. Whether a man was a member of the profession or not, if he acted in a cruel manner he ought to suffer. He had yet to be convinced of the necessity of unlimited docking. It was an operation performed by grooms, blacksmiths, and other persons. There were other countries in the world where horses were largely employed and never had their tails amputated. The discussion, no doubt, was a very important one from a professional point of view, but he did not think the magistrates throughout the country would be biassed by any opinion given by the Council.

Mr. SIMPSON said, in deference to the wish that had been expressed, he was quite willing to omit the last part of the resolution and let it end at the word "necessary."

Mr. SIMCOCKS said there were other operations performed to increase the value of a horse which were much more cruel than docking. He supported

Mr. Simpson's motion, but at the same time he thought it would have been better if the subject had not been introduced before the Council.

Prof. AXE thought that the opinion of the Council would materially influence the decision of justices. The subject had never been discussed before by the Council because the necessity for it had not arisen, and if the resolution were passed, it would at all events modify the excessive zeal of the agents of the Royal Society for the Prevention of Cruelty to Animals, and very little would be heard about docking in the future. Mr. Simpson had laid the matter before them in a very temperate manner, and the Council, the profession, and the public were indebted to him for bringing it forward.

The motion, terminating at the word "necessary," was then put and carried, fourteen voting for it and four against.

The drawing up of the Annual Report was left to the President, the Treasurer, and the Secretary.

Professor Pritchard, Mr. Simpson, and Mr. Wragg were appointed as the Dinner Committee.

Messrs. Percy, Spooner, Talbot, E. A. Batt, Peacock, E. Davy, Woods, junr., Wm. Welsby, A. Broad, Dudgeon, Evans, Hewitt, and Shave were appointed Scrutineers.

Mr. DRAY proposed a vote of thanks to the President.

Mr. SIMPSON seconded the motion, which was agreed to.

SOUTHERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of the members of the above Association was held at the Red Lion Hotel, Dorking, on Thursday. The attendance included F. W. Wragg, Esq., President; Professor Pritchard; Messrs. J. B. Martin (Rochester) Secretary, Barton (Tunbridge Wells), H. C. Legge (Dorking), Glover (Godstone), Hollingham (Red Hill), Rock (Chislehurst), Rock, Jun. (Chelsfield), W. Smithers (Dorking), etc.

The minutes of the previous meeting were read and confirmed.

The Secretary read a letter from Mr. Hogben (Folkestone), complaining that a balance sheet has not appeared in the Journal; and also that other Vice-presidents should be elected, as the present ones have neither read an essay or contributed anything to this particular society, the College Fund, nor any other deserving fund.

The SECRETARY said, in answer to that letter, that he read the balance sheet last year, but did not think it judicious to publish it in the Journal, as the society were indebted to him about £6. The case was, however, altered this year, and the disbursements were £51, and up to the previous day there was a balance due to him of £1 13s. 6d.; but subscriptions had since come in, and he now had a balance of about £6 in hand; but there was about £35 outstanding in subscriptions.

The balance sheet was passed.

Mr. J. B. MARTIN proposed that the President be re-elected for the ensuing year. This was seconded by Mr. H. C. LEGGE, and agreed to, *una voce*.

The PRESIDENT said he thought this was an honour that every member who formed the society aspired to, as it was the highest honour he could attain; and he thought as he had held office for one year it would be in the interests of the society if they elected some one in his place.

The general feeling of the meeting being in favour of Mr. Wragg continuing as President, that gentleman consented to do so, and thanked the meeting for the compliment they had paid him.

The SECRETARY said he should propose that Mr. Hollingham be elected Secretary in his place. He (Mr. Martin) started the society, and he had

done his best to advance its interests. They were now, he was happy to say, out of debt, and established on a firm basis, and he should like to infuse new blood into it, and he thought a younger man would act more energetically. Mr. Hollingham was a rising young man, and one who would no doubt make a mark in his profession.

Mr. GLOVER seconded the proposition, which was agreed to *nem. con.*

Mr. HOLLINGHAM said it was a post in connection with any society which he had never held, and he was afraid, after the excellent manner in which Mr. Martin had carried out the duties, that the contrast was one that would be noticed a great deal. He was willing to accept the post, however, and to carry out the duties in as efficient a manner as possible, but any shortcomings on his part he hoped they would look upon with indulgence.

The SECRETARY read a letter he had received from Mr. Cawthorn, resigning his position as Treasurer, and on the motion of the Secretary, seconded by Mr. Barton, Mr. Hogben, of Folkestone, was elected to the position.

Messrs. Martin, Stock, Glover, and Barton were added to the list of Vice-presidents.

The PRESIDENT produced a horse's hoof, and stated that it was a case of Sandcrack ; necrosis set in, and the animal died within sixteen days, and this only showed the short time in which the decease followed Sandcrack. The horse died of Pyæmia. In reply to Mr. Legge, the President said the animal was a powerful cart-horse and used for heavy work. The horse wasted away from pain. He also produced a specimen showing ulceration of the navicular bone in consequence of the horse picking up a nail.

Professor PRITCHARD said with regard to the first specimen it was no doubt a remarkable circumstance, and useful in fixing the time in which the separation from the bone could take place. It was, however, a bone that would rapidly die, and *necrosis* would take place in it quicker than in any other bone in the body. If they were to form an opinion upon that one specimen as to every other bone in the body, they would arrive at a wrong conclusion. He quite saw the value of the President's remarks, as showing how rapidly the death of the bone would take place ; but they must not lay down any hard-and-fast line, that it would take place with equal quickness with any other bone in the skeleton.

The PRESIDENT also produced a tumour which he found attached to the heart of a horse, on the pulmonary artery ; and it struck him as a singular case. (The tumour was about the size of a cherry.) The horse died of heart disease, but the tumour had nothing to do with the death.

Mr. J. B. MARTIN said he had received a large number of letters from members of the society, who were very indignant at the course Professor Pritchard had taken, with regard to the docking of horses, and many of them expressed an opinion that the Society for the Prevention of Cruelty to Animals should not be supported by veterinary surgeons so much as it had been. They had all heard of the arguments in favour of and against docking, but in many points of view docking enhanced the value of horses, and cart-horses when offered for sale generally had their tails tied up, and this showed off their quarters and enhanced their value, in appearance at any rate. Dr. Fleming said that horses' tails were the natural protection against flies, and said if two horses were turned out, the one with its tail docked, the other not, the last-named would get fat and the other thin. They had all heard this argument, but he (Mr. Martin) did not buy horses to turn out at that time of the year when flies were about. But no doubt all these matters would be gone into down at Birmingham the following week. Professor Pritchard said that where unnecessary pain was inflicted it amounted to cruelty, but if they took the general body of veterinary surgeons, they were humane and feeling, and he was sure they would not do anything that was not necessary to

punish any animal. They would all set their face against mutilating horses, as some horse dealers did, chopping tails off in a rough manner; but when veterinary surgeons did it, it was done in a scientific manner, and there was no cruelty. He certainly thought that in some cases it was a necessary operation.

Professor PRITCHARD said they must understand that he was present as a visitor, and to a certain extent his mouth was stopped. There should be something in the record of the meeting to show that though present he made no reply. It would also be premature for him to say anything, in the face of the Birmingham meeting being so near.

Mr. HOLLINGHAM: It may give people an idea that Professor Pritchard had no arguments to advance against docking.

Professor PRITCHARD: I do not reply, as my arguments would be premature in face of the Birmingham meeting.

The SECRETARY: I have several letters here, and one gentleman says if this sort of legislation is to go on we shall not be allowed to ring pigs, or use the twitch, and other necessary operations; and he supposed ladies would be prevented from having their ears pierced.

Professor PRITCHARD: That is the last piece of barbarity left with us.

The SECRETARY then proposed, "That it is the opinion of this meeting that veterinary surgeons are quite justified in using their discretion in performing the operation of docking horses, and in such cases as they consider it necessary, it is not cruelty."

Prof. PRITCHARD: I go as far as that; when it is necessary it is not cruelty.

Mr. BARTON: We want to know when it is necessary?

Mr. HOLLINGHAM was of opinion that no veterinary surgeon should be amenable to a court of law when he thought any operation was necessary. It did not tend to raise the dignity of the profession that they should be summoned for carrying out what they considered to be their duty. If he were called upon to give an opinion against any operation a brother veterinary surgeon chose to perform, he should decline to give it, unless it was clear that it was a case of unnecessary cruelty.

The SECRETARY then withdrew his resolution in favour of the following one proposed by Mr. Hollingham, "That in the opinion of this society, veterinary surgeons should not be liable to prosecution or interference in consequence of docking horses, or performing any operations they may consider necessary."

This was seconded by Mr. MARTIN, and carried unanimously.

On the proposition of the SECRETARY, it was agreed *nem. con.* to support the re-election of Dr. Fleming and Professor Pritchard on the Council, and the election of Mr. J. Barford (Southampton).

It was resolved that the next meeting of the society be held at Windsor, in June.

Professor Pritchard had prepared a paper on the subject of "Curb," but it was resolved that, in consequence of the small attendance and the lateness of the hour, to defer it till the meeting at Windsor, when it was resolved to invite the Central Society to join them.

On the proposition of Mr. HOLLINGHAM, seconded by Mr. BARTON, Mr. Walter Smithers, of Dorking, was elected a member of the society.

Subsequently the members dined together.

THE DEVON COUNTY VETERINARY MEDICAL ASSOCIATION.

THE first general annual meeting of the Devon County Veterinary Medical Association was held at the Half-Moon Hotel, Exeter, on March 13th; the President, J. D. Gregory, Esq., in the chair. Present:—Messrs. Collings, Parsons, Thomas, Olver, W. Penhale, Jun., R. L. Penhale, Down, Roach, Stevens, Chase, Gibbings, Golledge, Heath, and the Secretary.

The minutes of the previous meeting were read and confirmed.

Letters of apology for non-attendance were read from Messrs. Squires, Bloye, Endle, and J. H. Penhale.

A letter was also read from Mr. Banham, Secretary of the National Veterinary Medical Association, stating the claims and advantages of the society. The President stated that he was one of the Council of the Association, and he believed it a movement worthy of the support of the profession. After some little discussion the letter was allowed to lie on the table.

The PRESIDENT then read the inaugural address.

Gentlemen : Allow me to congratulate you most sincerely upon the establishment of this Association, and to thank you most heartily for the position in which you have placed me by your unanimous vote ; although, as I remarked to you at our preliminary meeting, I look upon it more as a respect paid to my age, than to any intrinsic merit you may consider me possessed of. But in your kindness, perhaps, you took into consideration the fact that I am not quite new to the duties and obligations appertaining to the office, for most of you are doubtless aware that as long ago as the year 1867, and the two following years, I was flattered by being appointed president of an association then existing, and known as "The West of England Veterinary Medical Association," a society which, during its existence, did, I am certain, much good work ; for not only did it bring together members of the profession in close, agreeable, and friendly contact, but it was the means of discussing and ventilating many matters which at that time were of the gravest importance to the profession as well as to the general public, matters although they may now be said to have passed into history, yet it may not be amiss were I to mention one or two of the principal ones.

Gentlemen, during the time I am speaking of, that most direful and destructive of all animal plagues, the Rinderpest, was in our midst, decimating our flocks and herds, and causing the greatest possible consternation, not only to their owners, but every class of the community.

Those members of the veterinary profession who were then in active practice can well remember the excitement it caused (any fresh outbreak of Foot-and-Mouth Disease pales before it). We can also remember the aspersions, the revilings, the shafts of ridicule that were thundered upon us by the public and the press for our supposed ignorance. We were called upon for cures, and we were tauntingly told that we had none to offer but the pole-axe ; but the profession was true to herself, we disregarded the gibes of the interested and ignorant, we adhered to one straightforward and truthful course, and we at length convinced the Government of the day, if not the general public, that we knew the principles that governed the propagation and dissemination of the disease, as well as the best means and methods to be adopted for its extermination.

I believe most sincerely that the course thus pursued by us, and the light we threw upon this and other contagious and infectious animal diseases, raised us higher in the estimation of the public than we were ever before held ; and it is flattering to feel that we helped most materially in bringing about subsequent legislation upon this most important matter, and I am bound to say that through the portals of the veterinary medical associations much of our knowledge was obtained.

Gentlemen, at the time I have been speaking of, other important matters, more intimately connected with veterinary politics, were under discussion. I allude more particularly now to the efforts that were then made for the obtainment of the supplementary charter and the better education of the pupil. You are all aware that after years of agitation and opposition, not only from a large section of the profession, the Highland Society, and most of the teaching schools, the efforts of the promoters were crowned with success, and

the charter was obtained. Whether or not their sanguine hopes will be realised, and the results be equal to their cherished anticipations, are yet in the future. I confess to you my views are more pessimist than optimist. We sought for protection from the State, and we are supposed to have obtained it; but has the protection given us any monopoly? Is it any more than protection in name? Are we not face to face with the same men, illiterate and uneducated, who can carry on their pursuits with the same impunity as before? Is it not a fact that by legalising them we have made them our equals? Are they not by this charter made eligible for inspectorships and other appointments? and can they not call themselves any name they please except M.R.C.V.S.? The friends of the charter say these men will die out in a generation. It is quite true no new men will be allowed to register; but what of that? What is to prevent the future generation practising as the present one? Oh! but they will not be enabled to recover any charges in a court of law. True; but what is to prevent their reliance in the faith of their employers? The penal clause is a farce without a public prosecutor; what private individual is there likely to prosecute breaches of the law?

Gentlemen, I never was opposed to the charter, I am not now; but I say this, let us not place too much reliance upon it—let us always keep in view that the welfare and social status of the profession must not be dependent upon legislative protection. With regard to the education of the pupil much remains yet to be done.

I do not complain of the scientific element, I believe that has of late years improved, but the practical teaching is, I consider, woefully deficient; it certainly has not improved, so far as I have had opportunities of judging, since I was a pupil some forty years ago. Are there any means of remedying this state of things at the schools? I fear not. Although much has been argued against it, the older I grow the more I am convinced of the necessity of apprenticeship; my views are the same as they were in 1867. There was another subject I well remember introducing at one of our old meetings: it was the desirability of establishing a higher grade in the profession—"An Institute of Fellows." I remember saying that all those who have been in practice some years must feel that, for want of stimulus, we get somewhat rusty upon many points connected with the scientific branches of the profession, and I believed that if some scheme could be carried out whereby an honourable distinction might be obtained, it would have the effect of inducing many of us to apply ourselves to that end, and I felt convinced the profession would profit by it. I need scarcely tell you that years after that time the Fellowship Degree was instituted and became law, and I have every reason to believe that it, in a great measure, resulted from my suggestion.

Gentlemen, I have simply brought those matters to your notice to show that the voice of such associations as the one you have formed, and which we have met to-day to inaugurate, did, even in the old days, exercise influences for good.

At the time I am alluding to, few associations of the kind, comparatively, existed; but as their advantages became better known they gradually increased, until there is now, as you know, scarcely a county in England that does not possess one or more, and surely it would have been a disgrace to the great county of Devon had we any longer remained without one. I congratulate you most sincerely on the formation of "The Devon County Veterinary Medical Association," and I hope and trust it will live longer than its predecessor. That want of success was attributable, I am convinced, to the extent of its area, and its migratory character, for if it did not extend from John o' Groat's to the Land's End, it went from Plymouth to Southampton, from Bideford to Cardiff. It was hoped that by bringing the meetings occasionally almost to each mem-

ber's door, the interest would be longer kept up ; but this proved to be a fallacy, and the association languished, not from want of funds or subjects for discussion, but from paucity of attendance. Members found it inconvenient to leave their homes and business for two days at a time, to say nothing of the expense, and eventually the society died of inanition. I hope in avoiding one extreme we shall not fall into the other ; it remains to be seen whether we may be able to enlist a sufficient number of members in the now proposed circumscribed area to keep up its general interest. I hope we may.

I consider it the bounden duty of every member of the profession, resident within the county at least, to become a member of this Association, and we shall hail with much pleasure and with open arms any member outside its boundary who may be good enough to join us. We should each and all consider ourselves responsible for its well doing, and be strictly jealous of his own and his fellow-worker's honour.

We should encourage by every possible means that feeling of clanship and good-fellowship which, I think, you will join with me in saying does not exist at all times with us. This should not be ; as members of a liberal profession we should endeavour to falsify that vulgar aphorism, "that two of a trade can never agree."

Let us hope sincerely that our banding together may be the means of forming new friendships and cementing old ones, and that we may be led to feel that any honour or distinction which may fall to the lot of any individual member may be deemed an honour conferred upon us all, and we should do all and everything that in us lie to raise the social status of the profession. That we have improved in this respect of late years none can venture to deny—let it be no fault of ours if the improvement be not continuous ; even Royalty has within the last few days shown us more than ordinary encouragement, as evinced by the presentation of three of our members at one of the Queen's Levees ; this, although not unprecedented, has been at least rare, and it may fairly be considered a source of congratulation to us as a profession.

Gentlemen, let us not be discouraged if those whose duty it is do not at once join our standard ; for very shame they must come to us in time.

Let us hope that we may find a sufficient amount of matter for discussion to keep up the interest of our meetings. Some of us may think that the path before us is a beaten and barren one, and the fruit all gathered. This is not so ; there must and will be fresh subjects always cropping up to demand our attention and consideration.

Gentlemen, at this moment there is, I believe, a comparative lull in professional politics ; there is nothing of what may be called burning matter to demand our attention, but it has occurred to me there are some subjects worth introducing to your notice to-day of sufficient importance to call forth some expression of opinion from you ; one is—"The Administration of Medicine by Tracheal Injection ;" another, the subject of "Docking Horses."

To those of us who are practising in rural districts—most here present are—I look upon the first as a subject of much importance. I need scarcely call to your minds the great mortality which attends, in some seasons of the year, the presence of stronguli in the bronchial tubes of young cattle and lambs, and the unsatisfactory results of our usual modes of treatment. The treatment as advised and set forth in the February number of *The Veterinarian* is a novelty, but it bears upon its surface the semblance of success. The operation in itself, as described, is a very simple one—A small incision is made in the skin, with the point of a lancet, about midway down the neck ; then, by means of a hypodermic syringe with a large-sized needle charged with the medicament, it is passed into the trachea. If this injected matter can be passed, as the introducer of the operation says it can, without its producing the disagreeable consequences which we have always been led to believe

must ensue from foreign substances entering that tube, it is but reasonable to suppose how much more efficacious the remedy must be when brought into direct contact with the parasite than by its having to traverse the whole course of the digestive and circulatory system of the patient.

I hope those of you who may have opportunities of testing the advantages of this mode of treatment will not fail to do so, and at some future time give us the benefit of your experience.

The subject of "Docking Horses" is at this moment exciting much attention and controversy, not only of the veterinary profession, but that of breeders and owners of horses, the Society for the Prevention of Cruelty, anti-vivisectionists, and a host of others. Very much has been written and spoken upon the subject—a great deal of sense as well as a vast amount of nonsense—the opponents of the operation grounding their objections principally upon the score of cruelty, the favourers upon that of utility. No conscientious member of our profession would, I am certain, inflict unnecessary pain on a dumb animal; but we are occasionally called upon to perform operations for safety and the prevention of accidents to the users of horses, notably castration, and with it we may fairly class "docking."

That a certain amount of pain attends this operation we must all admit; but when properly and skilfully performed, that pain is reduced to a minimum, and I am decidedly of opinion that the temporary pain it produces is more than counterbalanced by the advantages attending it. I have been in active practice for a period of forty years, during which time I have been called upon to operate on hundreds of horses and colts, and I cannot call to my recollection an instance where any untoward effects attended it; but I have seen innumerable instances where much unnecessary suffering has been caused by the unskilful performance of the operation, and it behoves us to protest as strongly as we can against the rude and often brutal way in which it is oftentimes performed by unqualified persons.

With your permission, I should like before we separate to-day to submit to you a resolution upon the subject, and thus invite your opinions as freely as I have expressed mine.

I believe this has been done at some other association meetings, and some gentleman went so far as to give notice of motion on the subject at a meeting of the Council of the Royal College of Veterinary Surgeons; but it was pointed out that it was beyond the power of the Council to entertain it, and the matter was withdrawn; but it is a question with which we, as an association, can legitimately deal, and I will by-and-by ask you to do so.

I have strung together these few remarks without method, and I fear they will not prove of much interest to you. I meant in addition to have called your attention to the subject of preventable diseases, and to legislation bearing upon them; but, unfortunately, more of late than formerly, I have felt the habit of procrastination growing upon me, and have put off from day to day getting ready something more worth talking to you about, until I have found myself at last, from pressure of professional and other matters, with little time at my disposal; but I am sure you will believe me when I tell you that, notwithstanding my shortcomings, I am looking forward with as much pleasure and hope to the well-doing and success of this Association as are any of its younger members.

In conclusion, I must again beg you to accept my best and heartfelt thanks for the kindness and indulgence you have shown me in placing me in the proud position of your first President, and I much regret that I have not offered you an address worthy of your acceptance.

An important discussion on docking then followed, in which nearly all those present took part.

Mr. PARSONS said he was in favour of docking for many reasons. It often

added greatly to the beauty of the animal so operated on, whilst others were positively dangerous to drive unless a portion of the tail had been amputated. He regarded the question of fees as quite a secondary matter, and one which should carry no weight in a question of this kind. He deprecated the manner in which horses were sometimes docked by unskilled persons; he was now treating a case of Tetanus from brutal docking by an amateur; the tail was badly hacked with a knife and then ligatured, and not cauterised. He begged to move the following resolution :—"It is the opinion of the members of the Devon County Veterinary Medical Association now assembled, that as the docking of horses is a surgical operation, requiring skill for its performance, it should only be performed by qualified members of the veterinary profession."

Mr. GOLLEDGE seconded.

Mr. CHASE could quite endorse what Mr. Parsons had said; he had treated what he believed to be a similar case of Tetanus, which, he had no doubt, arose from unskilled docking; the tail was badly butchered, and a short time afterwards Tetanus set in. He believed there were numerous instances in which docking was highly necessary.

Mr. STEVENS also recorded a case where Gangrene had set in after mutilation of the tail by an inexperienced person.

Mr. THOMAS thought the subject was one which should be thoroughly discussed and ventilated. Some horses were rendered more useful after docking, and their value enhanced. When the operation was properly performed, the pain produced was infinitesimal, and the slight temporary inconvenience occasioned was more than compensated by the improved appearance of the animal.

Mr. OLVER did not think it absolutely necessary to dock horses; although it was a common practice, and one which could not be stopped. He did not believe the operation was an act of cruelty, and should continue to dock horses as long as they were brought to him for the purpose. He thought his opinion in his own court would carry as much weight as any other which might be brought to oppose him.

Mr. COLLINGS thought it a matter of fashion, and those who were now leading the agitation against this operation were themselves victims to the same god. He should support the resolution, for he considered in many instances the operation was highly desirable, and even necessary. If we did not dock our horses it would be impossible for English breeders and dealers to compete with the Irish and French. After briefly describing the method of performing the operation in France, where it is conducted on the same principles as the amputation of any other limb, he said that unless we could bring sufficient moral weight to show the public that it was a necessary operation, we should be liable to be pounced on at any moment; he would therefore advise our joining the Mutual Defence Association, and try a test case.

Mr. PENHALE, jun., thought that good must arise from a discussion on the matter by veterinary surgeons, the persons best qualified to judge on the subject. It appeared that there was a unanimity of feeling as to the operation. We all thought it necessary and desirable, and causing but little pain; he should therefore continue to dock as heretofore.

Mr. GIBBINGS also concurred with the opinion expressed by the members present, and considered the objections raised by the opponents of docking very far-fetched; he should therefore support the resolution.

The PRESIDENT thought we should express our opinions freely and unitedly against those who were trying to gain popularity by raising a questionable opposition against the operation, which, in his opinion, caused very little pain or inconvenience; he had been operating on animals in this way for forty years, and no bad results of any kind had followed.

The resolution was then put to the meeting, and carried unanimously.

Mr. THOMAS then moved that, as several members from Somerset and Cornwall were joining the Association, it would be wise to alter its name, and instead of being called "Devon County," it should be known as the "Western Counties Veterinary Medical Association." This was seconded and carried, Mr. Olver being also unanimously elected a vice-president of the Association.

Mr. COLLINGS moved, and Mr. PENHALE, jun., seconded a vote of thanks to the President for his very able and interesting address, at the same time expressing a hope that he would allow it to appear in print.

Resolved, after a cordial invitation from Mr. Thomas, that the society hold its next meeting in Plymouth, on Thursday, September 25th.

The members then dined together, after which the usual loyal and patriotic toasts were proposed and duly responded to.

W. PENHALE, *Hon. Sec.*

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

THE annual meeting and dinner of this Association was held at the Grosvenor Hotel, Manchester, on Friday, the 7th of March.

Present—Peter Taylor, Esq., in the chair, and with him Professor Williams, Dr. Priestly, Dr. Westmoreland, Dr. Holmes, Messrs. T. Greaves, Wm. Whittle, R. Reynolds, G. Morgan, Jos. Carter, W. Broughton, T. H. Simcocks, W. A. Taylor, T. Briggs, Jno. Lawson, H. J. Cartwright, T. Hopkin, E. Faulkner, J. W. T. Moore, J. S. Hurndall, T. B. Cockshoot, Wm. Woods, jun., P. Walker, E. Kitchen, S. Locke, A. W. Briggs, H. Ferguson, F. Blakeway, — Barrett, C. Phillips, W. Dacre, A. Lawson, A. M. Michaelis, J. L. Barling, J. Bunnell, L. W. Delacherois, J. W. Ingram, T. Mann, R. J. Redman, J. Handley, N. Packman, M. J. Roberts, W. Davidson, and the Secretary, J. B. Wolstenholme—in all, forty-four members and friends.

Letters apologising for non-attendance were received from Dr. Fleming, Sir F. Fitzwygram, Professors McCall, Pritchard, Axe, McFadyean, Walley, and Lewis, also from Dr. Gamgee, Dr. Mules, and eighty-six other gentlemen.

Mr. E. FAULKNER proposed that Mr. Arthur New, M.R.C.V.S., of Worsley, be a member of this Association. This was seconded by Mr. S. LOCKE, and carried unanimously.

The SECRETARY proposed that Mr. J. S. Hurndall, M.R.C.V.S., of Liverpool, and Mr. G. Gartside Mayor, M.R.C.V.S., of Kirkham, near Preston, be members of this Association. This was seconded by Mr. J. W. T. MOORE, and carried unanimously.

As the term of office as member of Council held by Mr. Thomas Greaves expires this year, Mr. WM. WHITTLE proposed that Mr. Greaves, who has so long and ably represented this Association in Council, be again our nominee; this was seconded by Mr. JOHN LAWSON, and carried unanimously.

Proposed by Mr. THOMAS BRIGGS, and seconded by Mr. WHITTLE, that the office-bearers, together with Messrs. Hopkin, W. A. Taylor, and E. Faulkner, be appointed as Election Committee, to further the candidature of Mr. Greaves. Carried unanimously.

Mr. S. LOCKE then moved "that the next ordinary meeting be postponed until the third Wednesday in April; seconded by Mr. W. A. TAYLOR, and carried unanimously.

The PRESIDENT then read his inaugural address as follows:—

Gentlemen,—Nineteen years ago I occupied the office of President of

this society, and to-day, by your extreme kindness, I find myself in the same honourable position.

That great benefits have accrued to our profession by the formation and growth of veterinary medical societies is undeniable, and their importance must ever be great so long as their proceedings are conducted on right principles. They promote and guard our interests, and at the same time keep a watchful eye on the length and breadth of our profession. At the deliberations of the members much that is scientifically and practically interesting and instructive takes place. I look upon the duties of membership of one of these societies as of paramount importance if we are desirous—and I feel sure we all are—to raise the status of our profession to equality with other learned professions. Combination, having progress for its object, must sooner or later bring forth good fruit.

Whilst we note the progress of our local societies, and the increase in their number, we find recently sprung up another association, not having for its objects the overshadowing or disparagement of the local ones, but founded for higher purposes. Gentlemen, we shall have the great honour of receiving and welcoming to our city in July next the National Veterinary Association, a society which numbers amongst its members many of the most eminent veterinarians of the day, and I sincerely hope that not only every member of the Lancashire Society, but every Lancashire practitioner, will join the National Association, and endeavour to his utmost to assist in making the July meeting an undoubted success.

The objects of the National Association are by this pretty well known to the majority of us, but for the information of the minority I extract the following from the Rules—

“The objects of the Association are to promote and advance veterinary medical and allied sciences, and maintain the honour and interests of the veterinary profession by the aid of all or any of the following :—

“1. By holding general meetings of the members of the Association and profession generally, from time to time, in various parts of the country, for the discussion of veterinary topics, etc.

“2. By the publication of the proceedings of meetings of, or other information pertaining to the Association, as the Council may determine.

“3. By granting sums of money out of the funds, or assisting in obtaining grants from Government or elsewhere, for investigating animal diseases, or otherwise promoting veterinary science.

“4. By such other lawful things as are incidental or conducive to the attainment of the above objects.”

Founded on such a basis, and given the thorough support of the profession, I fail to see why the National Veterinary Association, by its discussions, deliberations, and decisions, should not prove of great value to the nation. Many and important are the questions in relation to our live stock, both from the point of view of the producer and consumer. There is a wide field for consideration in the nature, causes, treatment, prevention, and suppression of the various contagious and infectious diseases which annually destroy thousands of our horses, cattle, sheep, and swine.

The working of the Contagious Diseases (Animals) Act has been in many respects unsatisfactory, and the manner in which veterinary inspectors are appointed, both by the Privy Council and local authorities, ought at once to be reformed.

The length of time over which the present visitation of Foot-and-mouth Disease has extended, is certainly deplorable, and points to inefficiency in the machinery which has been brought into action with the object of stamping out the disease. It is even now matter for congratulation that, through the force of circumstances and external pressure, the Government have been

induced to bring forward a Bill to amend the Contagious Diseases (Animals) Act. The Duke of Richmond has also introduced in the House of Lords a Bill, having for its object the prohibition of the importation of live cattle from countries where Foot-and-mouth Disease is known to exist. It is to be hoped both measures may become law.

I hope the day is not far distant when fully qualified veterinary surgeons shall hold the posts of inspectors of meat, and also of public health officers, in so far as regards the sanitary conditions of the various *habitats* of the domestic animals, the inspection of milk-shops, dairies, etc.

In my former address I reviewed our profession, commencing with the year 1791, when, to his honour be it said, that enlightened Frenchman, St. Bel, came over to our great metropolis, and with the aid of a council opened a teaching school in London, thus placing our profession for the first time on a scientific educational basis. This school or college has, as you are aware, continued to grow in power and worth under six successive learned principals, and has been the means of educating a large number of men, some of whom at the present time occupy eminent positions as professors and practitioners. This institution is now under the very able direction of our most estimable and learned friend, Professor Robertson, who, with the aid of his colleagues, I doubt not, will to the utmost of his power, endeavour to make it an efficient and scientific teaching school.

There is still the old college in Clyde Street, Edinburgh, opened by that indefatigable and learned man, the late Professor Dick, in the year 1823. His memory will ever live in veterinary history for the great and noble works he did for our science and art, and for the great number of eminent veterinarians he sent forth from his college. The Clyde Street School is now ably presided over by Professor Walley, whose ambition is to do good and honourable service by thoroughly teaching the students attending the institution.

Then there is the New Veterinary College, Edinburgh, a new and elaborate building, containing all the latest and greatest improvements for accurate and careful teaching. It has as its founder and principal, Professor Williams, a man who has by his teaching and literary efforts probably done as much as any living individual for the advancement of our profession. All honour is due to him.

There is also another efficient teaching school in Glasgow, presided over by Professor McCall, its founder, a very able and distinguished teacher.

All our teaching schools are doing good and excellent work in scientifically educating a great number of students.

I hear it is likely that ere long a veterinary teaching school will be opened in Dublin. If such a school be founded, I sincerely trust the authorities may be induced to forego their intention to apply for power to institute diploma-granting examinations. However many teaching institutions there may be, let us one and all oppose to the utmost any addition to the one-portal entrance to the profession at the present time existing.

During recent years the members of our representative body—the Council of the Royal College of Veterinary Surgeons—have been doing good work. By their foresight, discretion, and tact, aided by the kindness and assistance of friends in Scotland, they succeeded in prevailing upon the Highland and Agricultural Society to cease holding examinations, and grant veterinary diplomas. This agreement has, as it were, been the means of consolidating the profession, by causing the students from the various colleges to present themselves for examination before one Board of Examiners appointed by the Royal College of Veterinary Surgeons.

The Council have imposed a progressive matriculation examination, and also enforced a three years' collegiate training.

Our profession was granted a charter in the year 1844, which gave us certain privileges and rights, and ordered and created certain laws to govern and direct the examinations, the disbursement of funds, and the regulation of all other business pertaining to the Royal College. The charter further specifies that there shall be a Council, consisting of not more than thirty-one members, to direct and manage the concerns of the body corporate, six members of the Council to retire annually, who shall be eligible for re-election. It also sets forth that a general meeting of the corporate body shall be held annually on the first Monday in the month of May, to be convened by advertisement in certain newspapers, at which meeting a synopsis of the year's work shall be presented. Any member of the College present may, with the permission of the President, address the meeting, and condemn or uphold the actions of the Council during the past year, or offer suggestions for the future welfare of the profession. But, gentlemen, statements and allusions of a personal nature are sometimes made, which often do harm by unjustly wounding the feelings of members of Council, who are, I can safely and truthfully state, actuated by the purest and best motives in their endeavours to promote the legislation for and administration of the affairs of the College.

The first supplemental charter granted power to the Council of the College to create by election and examination a new class of members, designated "Fellows." Within six months of the date of the charter the Council elected as Fellows some seventy-six members without examination. Now, in order to be eligible for examination for the degree of Fellow, a candidate must have practised his profession in an honourable manner for five years, or been a professor in a veterinary school, attained the age of twenty-six years, and also complied with certain rules and regulations. The fee for this examination is fifteen guineas. What advantages does the degree of Fellow confer on the holder beyond the honour of a higher title? These, that after the 23rd day of August, 1886—but two years from the present time—only Fellows will be eligible to become members of Council, or to serve as members of the Board of Examiners, save and except those gentlemen serving as members of Council at the time the ninth clause of the charter comes into operation. This is an important fact, to which I have thought it well to direct your attention.

The second supplemental charter enabled the College to ratify the treaty with the Highland and Agricultural Society to which I have before alluded. This charter has been of immense service in consolidating our position, by constituting the profession one corporate body, possessing one Examining Board, and granting one diploma.

Last year a third supplemental charter was sought, for the purpose of empowering the College to compel candidates to serve an apprenticeship with a qualified veterinary surgeon prior to obtaining the diploma, and also for power to raise the examination fees if necessary. In consequence of opposition, the pupilage clause was struck out.

I must not overlook the fact that in the year 1881 the Royal College of Veterinary Surgeons applied for and obtained the Veterinary Surgeons Act. With the advent of the present year the operation of the seventeenth clause came into force. It is now illegal for any one who is not a Fellow or member of the Royal College, or who does not possess the certificate of the Highland and Agricultural Society of Scotland, or is not registered as an "existing practitioner," to describe himself as a veterinary surgeon or a practitioner of veterinary surgery or any branch thereof. Any infringement of this clause renders the perpetrator of the same, on conviction, liable to a fine not exceeding twenty pounds. In order to obtain this concession and other privileges, we were compelled to register as existing practitioners men

who had never studied the profession in a scientific manner, and who had blindly practised the art. It is almost needless to add that in this instance the question of vested interests was not ignored by Parliament. As the number of existing practitioners cannot increase, it follows that in time to come our profession will be a strictly scientific, as well as a legally-constituted body.

There has recently been an agitation amongst our Scotch brethren, having for its object the alteration of the representation of the profession on the Council Board. They would apportion the representatives of the profession thus. To England and Wales twelve, to Scotland eight, and to Ireland four. This proposition I lay before you as it has reached me. On the face of it it seems feasible and right, but I apprehend it could not be carried into effect without a special charter. Then, again, would our Scotch and Irish friends, when elected, attend to their duties in London? From past history this would appear doubtful. That both Scotch and Irish members of the profession ought to have a fair representation on the Council, no one, I venture to think, will attempt to deny, but as yet no really practicable scheme for such direct representation has been formulated.

When I review our profession, I most solemnly assure you I feel grieved to see the amount of dissent, discord, and jealousy there still exists in our ranks, and the little brotherly love and toleration that is shown for one another or for the profession we represent. And when I survey the horizon, there is arising and sowing embers of discord that startling spectre, "The Docking of Horses' Tails," or the "Fashionable Mutilation of Animals." What a picture, gentlemen! Professor *versus* professor, veterinary surgeon *versus* veterinary surgeon, the administrator of the law bewildered in his attempt to arrive at a just verdict. Truly may it be said, "When doctors disagree, who shall decide?" As a solution to this question, I would propose that the whole profession be canvassed, and let the majority decide whether or not the exercise of the operation of amputation of the tail by qualified veterinary surgeons should continue to be performed.

There is a great future in store for us, but its realisation will depend upon individual and collective investigation of animal diseases, their nature, treatment, suppression, and prevention.

The extensive range of our profession, including as it does the study of the normal and abnormal conditions of the horse, ox, sheep, dog, and other animals, surely demands that candidates for our diploma should possess a liberal education. Let us, then, insist upon their having a sound and thorough general and technical knowledge. The time has now arrived when, if we are to progress and keep pace with our enlightened French and German brothers, we must demand for our veterinary pupils a better and higher general training. The opportunities for obtaining this are yearly increasing. In addition to our older universities and colleges, there are many provincial colleges, such as the Owen's College, or Victoria University in this city, Mason's College, near Birmingham, the Yorkshire College at Leeds, and many public schools, all offering great and important facilities for the study of the various branches of science and art. I am afraid, gentlemen, many of us are behind. We must awake, arise, and march onward, or we shall be left hopelessly in the rear. Granted that a higher education of the veterinary surgeon is necessary, let us be resolved to have it.

Veterinary students would do well to read Dr. Cameron's address, delivered at the opening ceremony of the Glasgow Veterinary College last October. Its perusal is calculated to make one feel one's individual littleness, and yet it calls aloud to every member of our profession to do his utmost to advance a noble calling.

During recent years the study of the so-called germ theory of disease has been prosecuted with great vigour by many eminent scientists. Their

labours have been, in numerous instances, crowned with success, and the tendency of their conclusions points more and more to the importance of prevention by inoculation, rather than to the value of any particular remedial agents. Splenic Apoplexy, Anthrax, Variola, Tuberculosis, Swine Fever, Fowl Cholera, Rabies, and Hydrophobia, and other very fatal maladies, have been, by recent experimental research, proved to be due to the presence of disease-producing microbes. It has further been demonstrated that by inoculation with properly cultivated and attenuated virus, healthy animals can be afforded protection against subsequent attacks of some of these specific diseases.

As yet, however, no satisfactory method of cultivating the specific microbe of Cattle Plague, Pleuro-pneumonia Contagiosa, Foot-and-mouth Disease, etc., has been discovered. Doubtless, this and other problems of vast importance will ere long be solved.

In the meantime, gentlemen, it behoves us, as ordinary practitioners, to make ourselves acquainted with the various scientific discoveries in pathology, surgery, medicine, and allied subjects, so that we may be more able to render aid in the cure and prevention of disease, in the relief of pain, and in the promotion of health in the lower animals, and thus help to increase our cherished country's wealth.

After some of the topics brought forward in this address had been spoken to by the members, a hearty vote of thanks was accorded the President for his able paper.

The SECRETARY then read communications received from Mr. H. L. Simpson, of Windsor, relative to the motion he has given notice to bring forward in Council.

After some discussion, Mr. A. LAWSON moved, and Mr. T. HOPKIN seconded, the following resolution:—"That the operation of docking horses, where scientifically carried out by a duly-qualified veterinary surgeon, is perfectly justifiable." This was submitted to the meeting and carried unanimously.

This concluded the business of the evening. The members and guests then took dinner, and the usual loyal, patriotic, and professional toasts were duly honoured.

J. B. WOLSTENHOLME, *Hon. Sec.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

THE second annual conjoint meeting and dinner of the Scottish Metropolitan, West of Scotland, and Scottish Central Veterinary Medical Societies, were held in the Waterloo Hotel, Edinburgh, on Friday, 22nd February, 1884. There was a large attendance of members and visitors. Amongst those present were—Mr. C. Phillips, A.V.D., 3rd Dragoon Guards, retiring President of the Scottish Metropolitan Society; Mr. M'Gregor, President of the North of England Society; Mr. Campbell, President of the West of Scotland Society; Mr. Spreull, President of the Scottish Central Society; Principals Walley, Williams, and McCall; Professors Baird, McQueen, McFadyean, and Lewis; Messrs. Rutherford, W. O. Williams, Grey, P. Moir, A. Baird, A.V.D., Aitken, Borthwick, Connachie, Connachie, jun., Cunningham, Aitken (Dalkeith), Hutton, Fairbairn, Cameron, T. Greaves, (Manchester), Boyd, Pottie, H. Hunter, Dr. Hunter, A. Robinson, W. W. Smart, Mulvey, Storie, W. Cassells, Weir, J. Black, Burnett, Constable, Clark, Macfarlane, R. Mitchell, Young, Dalling, Bryce, Robson, Bisset, Thomson (Aberdeen), Dewar, Campbell, Baillie Anderson, Robb, Blue, and others.

The honorary secretary and treasurer, Mr. RUTHERFORD, read the minutes of the previous meeting, which were approved of. In submitting his report,

he said the Association had no pretensions to wealth. They had, however, paid all their dues, except the expense of their meeting that night, and they had a balance of £24 8s. 11d.

Mr. PHILLIPS, the retiring President, in vacating the chair in favour of Principal Walley, briefly complimented the Association on the progress it had been making, and expressed the pleasure it afforded him to act as president ever since they conferred on him the honour of that appointment.

On taking the chair, Principal WALLEY thanked them for the honour they had done him, and added that he would be happy to do all in his power for the success of the Association.

Mr. RUTHERFORD had pleasure in calling upon Professor Lewis to be his successor as honorary secretary and treasurer; and on assuming these offices, Professor Lewis acknowledged the honour conferred upon him.

Mr. CONNACHIE, Selkirk, in proposing a hearty vote of thanks to Mr. Phillips and Mr. Rutherford, complimented them upon the very able manner in which they had discharged their duties during their tenure of office.

Mr. BORTHWICK, Kirkliston, seconded the motion, which was carried unanimously.

Mr. RUTHERFORD proposed that Messrs. Finlay Dun, Edinburgh; Burnett, of Maybole; and Hume, of Haddington, be elected members of the Scottish Metropolitan Veterinary Medical Association.

The PRESIDENT seconded the motion, which was carried unanimously.

The PRESIDENT then nominated Mr. James Pow, of Jedburgh, and Mr. Wm. Cassells, of Lanark, for election at the next meeting.

The PRESIDENT proposed that the revised rules of the Association, which had been discussed and approved of at the previous meetings, should be accepted.

The motion was seconded by Mr. CONNACHIE, and unanimously agreed to.

The PRESIDENT then said: The private business of the Scottish Metropolitan Veterinary Medical Association being concluded, I now pass on to the business of the meeting itself. The chief matter before us is the consideration of a report as to the memorial regarding the representation of Scotland in the Council. Mr. Cunningham, who has had charge of the matter, will tell us what has been done.

Mr. CUNNINGHAM then gave a summary of the memorial to which the Chairman referred. He said that the memorial was from the three societies asking the Royal College to change the present mode of election of members of Council, from an annual general vote of the profession, to the Parliamentary or constituency system. That was done in terms of a resolution passed at a meeting of the societies held in December, 1882. The adoption of the proposed method was supported on three grounds, namely, justice, expediency, and the beneficial effect it would have on the profession. Its object was to divide the country into as many constituencies as there are members of Council, and to give each constituency the power within itself to return its own representative to the Council, leaving its members free to choose a representative from whatever district of the country they pleased. The result would be that there would be thirty representatives in the Council sent by various sections throughout the country. Scottish practitioners would have six direct representatives on the Council. Each veterinary college would have one; and the whole plan would be much more easily carried out than the present one. The papers were sent off at the end of February, 1883. The secretary acknowledged receipt, and for eleven months they heard nothing more of the matter; a letter was then received, stating that the proposed scheme could not be entertained, as the charter did not allow of any alteration

in the mode of election. He was not surprised at the decision of the Council. It was exactly what he anticipated. The Council, instead of entering into a friendly consideration of the merits or demerits of the case, had fallen back on the technical objection that the charter did not allow any alteration of the mode of election. They knew that the mode of election was formerly by a show of hands, and now it was by voting papers. If the charter could empower them to alter the mode of election in the past, it might do so now. The Council was filled by men sent from populous centres. It had its superabundance of men from London and Lancashire. If any one wanted to see the London centralising system in perfection, he need only go and see the veterinary system in operation. Two remedies for this state of matters presented themselves. The one is to follow Professor Dick's example, and try once more to get a charter for themselves; the other, to journey to London and endeavour to reform the Council. If the profession in Scotland, the Scottish colleges, and those who had been educated at Scottish colleges, liked to stand together they could get a charter of their own; but if they leant to the Royal College, the chance of reforming the Council was very small. They must remember that they were five to one against them—1500 in England, and only 300 in Scotland. On the Council there were twenty-two from England, one from Ireland, and two from Scotland. Unless they adopted some better plan than the present one, they would continue to have twelve examiners from the other side of the Border, and only one from Scotland, and Scotland would simply be a sort of appendage to the Royal College.

The PRESIDENT said there are very few who will question the advisability of altering the mode of election; and it will only be by pressure from the Associations that this will be brought about. He thought every one would agree with him that Mr. Cunningham should receive a hearty vote of thanks for the trouble he had taken in the matter.

The PRESIDENT then delivered his address.

GENTLEMEN,—In accordance with custom, it is my privilege and duty, on taking the presidential chair, to address a few remarks to you on the general aspects of matters connected with the Association, and with the profession generally. I presume you will all agree with me when I say that the amount of vitality exhibited, and the amount of work done by associations like this in connection with any professional body, will be, to a large extent, the measure of the vitality and progress of that body; at any rate, the progress made by our profession during the last fifteen or twenty years has gone on side by side with the advance and the increase in numbers of veterinary medical societies.

We have but to look back comparatively a few years, to the days when the only associations which existed were those in connection with the colleges. Now there are about fourteen extra scholastic societies; and what, in my opinion, is of even greater consequence, is the fact that from these societies this and similar meetings have originated, and promise to become a more marked feature in their workings as each year passes by. As you are all probably aware, the first meeting of this kind, in Scotland, was held at Glasgow last year under the same auspices as this. That meeting was a success and an encouragement, and I trust this may be even more successful and more encouraging.

When I accepted the position of President of the Scottish Metropolitan Veterinary Medical Association, and realised that its acceptance involved an address, I felt for a moment nonplussed, and wished that the task had fallen to the lot of some other member, but on reflection I felt, and do now feel, rather glad than otherwise that such a task lay before me,

as so many topics of vital importance to the profession presented themselves to my mind's eye, that I felt I had sufficient matter out of which to construct a presidential address, and in dealing with that matter I shall not shrink from what, under some circumstances, is very disagreeable—viz., saying what I think. In the first place, I take it that such societies as these have one important function, *i.e.*, the improvement of every individual member, both intellectually and professionally; the discussions which are carried on in such meetings are not only a corollary, they are a continuation of the education obtained during our scholastic career. They prevent practitioners from getting into that worst of all habits—neglect of intellectual pursuits; they tend to break down the barriers which the routine of daily practice erects between them and science, and they are the means by which they keep themselves abreast of the times in which they live.

Holding this opinion, you will not be surprised when I express my regret that some of the leading members of our profession endeavour to throw cold water on the efforts of some of us to improve our position by keeping up technical knowledge, and showing to other scientific bodies that we are no backsliders, but rather that we are determined to command the respect of all intelligent men by making ourselves intellectually their equals. It is a great mistake to suppose that when a man leaves the precincts of his *alma mater* he has done with technical matters. If he deliberately chooses to ignore them, he must not be surprised if scientific men around him take him at his own valuation, and dub him an ignoramus; and I would suggest that in place of writing a tirade against those who employ in their addresses to such associations as these simple technical terms, understood by all second-year students, certain members of our profession should purchase a dictionary, and from its perusal gain the knowledge they seem to lack.

Veterinary medical associations have, however, other functions than that of intellectual improvement; they have a political and a professional function, and it is quite within the province of such meetings as this that everything which has any influence on the progress of the profession should be considered, and I shall deal *seriatim* with the various subjects upon which I feel assured the minds of most of you have dwelt during the past twelve months, and if my remarks develop a scholastic meaning, you will, I hope, pardon me when you reflect that we dwell in the greatest scholastic centre of the British dominions; and, further, that my life is largely spent in scholastic pursuits.

At the first annual meeting of these associations, held in Glasgow last year, the question of the representation of the profession in the Council of the Royal College of Veterinary Surgeons was discussed; various theories were then enunciated, and various schemes were suggested for the better representation of the profession in Scotland on that Council Board, but I am afraid that the influence of the great centres of veterinary practice in England is so powerful that we stand very little chance of being heard, or of having our demands considered, and I candidly confess that twelve months ago I did not think it was a matter of so much importance, seeing that on the Council we had a fair proportion of Scotch graduates; but when I expressed the opinion, I was met by the remark that when a Scotsman went to England, he forgot to a large extent his nationality. I did not believe the statement then. I have had good reason to acknowledge its truth since; but while I say this I must at the same time say to those who are anxious for a larger northern representation in the Council, that, were it not for the large proportion of southern—I might almost say of metropolitan representatives—the work of the Council could not be carried on, especially the enormous amount of committee work; and to those who are individually anxious to obtain a seat in the parliament of our profession, I may say that the position they desire is not altogether an

enviable or a profitable one. It means the sacrifice of much comfort, the expenditure of much time and of some money, without, in some cases, an adequate return ; and, after all, if they are attentive to their duties, and earnest in the expression of their views, they lay themselves open to the charge of being over-zealous, of working from interested motives, and, worse than all, that their exertions must be pecuniarily profitable to them. Well, gentlemen, all I can say in connection with these matters is, that to me a journey to London—necessarily a hurried one—is an infliction and a loss, and when one's motives are misconstrued, it makes the loss felt still more keenly, particularly when your motives are canvassed, not in an open, straightforward manner, but under the ægis of a *nom-de-plume*, or in some other covert manner. Still less can one feel satisfaction in having performed his duty when he is covertly attacked by a colleague who has not sufficient courage to acknowledge his own production, and whose motives in doing so are consequently not brought to light. Notwithstanding the fact that I entertain these views, I hold that Scotland is not sufficiently represented on the Council, and that it is our duty to endeavour to increase that representation. We may differ in our ideas as to how that may be best done, but we shall, I hope, work together in order to effect the object we have in view. This, indeed, is the most important work we have to perform to-day, and I shall do all that lays in my power to bring our efforts in this direction to a successful issue.

Another matter which has attracted the attention of the profession of late is the election by certain local authorities to the office of veterinary inspectors, under the Contagious Diseases (Animals) Act, of men who, in the opinion of most of us, are not qualified to hold such offices, I mean practitioners registered under the New Veterinary Medical Act. Certainly, I myself had no idea, when I assisted in the obtainment of that Act, that it would cut the ground from under our feet in this particular direction.

It is to the Privy Council we have to look as the responsible body in the making of such appointments, as without such sanction they would be null and void, and I suspect any representation made to the Privy Council on the subject would be met by a reference to the terms of the Contagious Diseases (Animals) Act of 1878, in which all veterinary practitioners who had been employed by local authorities as Inspectors under the 1869 Act were held as being eligible for the office. Certainly the meaning of the words Veterinary Inspector is strictly defined in the 1878 Act, and according to it I do not see how recently-created existing practitioners can come within the limits of the definition, as they have been, by the Privy Council Order of 19th of May, 1883, except on the ground that, as they have been recognised by the profession and the Privy Council, they must be held as being qualified for the office. If this is so, it most assuredly was never contemplated by the promoters of the Veterinary Act that any action of theirs should place such men on a level with the graduated members of the profession. I do not myself see what can be done under the circumstances, except strong representations are made by this and kindred associations to the proper authorities, and perhaps there is no better time for doing this than at the present moment, when the Privy Council is asking for more extended powers under the 1878 Act. I may remark, in passing, that I had hoped the representations which have been frequently made by the profession as to the advisability of including Tubercle, Rabies, and Anthrax in the list of contagious diseases would not be forgotten by the Privy Council when the opportunity offered for obtaining increased power, as also the necessity which exists for further power to deal more peremptorily with animals exposed in open market, and which have there come in contact with diseased animals. The provisions of the proposed Bill do not, however, include either of these subjects.

Two other matters have recently attracted a large share of the attention of

individual members of the profession, and also of the Association—I mean, *the operation of docking horses, and the stripping of the sole for Ringbone and Sidebone*; and some lay writers have used language of the most condemnatory character in reference to the opinions of veterinary surgeons as to the advisability of performing the first-mentioned operation. There is no question, I take it, which does not present two phases upon which arguments may be based, and so it is with docking. If, of course, it can be shown that an operation is unnecessary, and that it does not in any way conduce to the comfort and well-being of the animal, it is a *cruel* operation; but can such be said, without qualification, of the operation under consideration? I fancy all who have to ride for many hours together, whether across country or otherwise, will admit that there is nothing more unpleasant and disagreeable, either to horse or rider, than the switching of heaps of mud over clothes and skin, and, under some circumstances, nothing more likely to give rise to unpleasant consequences; and even in harness horses much damage is done, both to carriage and harness. This latter, however, is only a pecuniary question, and should not be put in the scale against animal suffering, even though only of small degree.

There can be no doubt that the operation is a severe one, and the older the horse the more severe it is; and even though the duration of the pain of the operation is momentary, the subsequent suffering from the action of the cautery, when used, is very great, and even without the cautery pain accompanies the healing process of the wound, and it is aggravated by the infliction of occasional knocks and bruises on the tender stump. But while this is so, the long tail has its dangers too, especially in horses used for “tip” work, and only a few weeks have elapsed since I was called in consultation in a case of Tetanus caused by a bruise inflicted in this way on an undocked tail. Assuming the necessity of docking, is there any reason, I would ask, why the operation should be delayed to such a late period of life, when the pain and risk must necessarily be much greater than if it were performed in early life, say during the first few weeks, as done in the case of lambs? Or if it is performed in adultism, is there any reason why the cruel cautery should be employed for the arrest of the hæmorrhage? I assert that there is not, as it can be effectually arrested by the use of a temporary ligature, without the destruction of tissue, and oftentimes necrosis of bone, which follows the use of the hot iron.

In reference to the second operation mentioned, while expressing regret that I should in any way use terms condemnatory of the action of a professional brother, I must say emphatically that by no method of reasoning, physically, surgically, or otherwise, can the operation be shown to be either effectual as a remedy or even palliative as a system, and under any circumstances it should not be performed without the use of chloroform. Even in Canker of the foot it has been, in my experience, of no value whatever as a remedial procedure.

The Relation of the Council of the Royal College of Veterinary Surgeons to the Schools.

While the schools have done all in their power to assist the Council in every effort it has made to improve the profession, the former have been charged—anonymously, certainly, in one or two instances—with obstructing the latter in its work. We—or at least, speaking for the school I represent—we do not deny the charge. We have obstructed, wherever and whenever we felt that the action of the Council was inimical to our well-being, but only then. Were we not justified in so doing? Are not the vested interests of the schools greater than those of the Council of the Royal College of Veterinary Surgeons? Has not the course of events vindicated the action

we have taken? We are charged with inconsistency. We are told, "You are the minority; you have no right to set up your opinion against that of the majority." The rights of a minority are, I take it, always more sacred than those of a majority, and not infrequently the views of the former prove in the end to be truer and more comprehensive than those of the latter.

The schools were in a minority when they opposed the illegal action of the Council in formulating a rule that no student should be eligible for graduation until he had seen twelve months' service with a practitioner. They were in a minority when they opposed the application of the Council for a charter to render pupilage compulsory. Has not the subsequent course of events proved that they were right? We shall see by-and-by.

We have been charged with inconsistency. In what has our inconsistency lain? We have consistently fought for the good of the student, and in doing so we have fought, as we believe, for the good of the profession at large. Has the Council been consistent in all its actions? I do not hesitate to answer in the negative. Witness its proceedings in reference to the order of the two parts of the examination in the final! You know, I doubt not, something of the old process of "appealing from Peter drunk to Peter sober." Something of this kind went on in reference to the subject mentioned, and in this way: The Council passed a resolution *almost unanimously and at the suggestion of a practitioner*, to the effect that "The oral examination should precede the practical, and that any student failing in the former should not be allowed to present himself for the latter, but should be relegated to his studies (for such period as the examiners saw fit); but if he succeeded in passing the oral, he should go on at once for the practical, and if he failed in this, he was not to be again examined in the oral part." This was a reasonable and a just resolution, but what became of it? In order that it should become law, it was necessary that it should be subsequently adopted and confirmed, but by common consent this part of the process was suspended until the educational scheme had been matured, when, it was said, they could be both dealt with as one subject. Some nine or twelve months after this the Educational Committee presented their scheme to the Council, and embodied therein was a significant clause to the effect, "That the practical should precede the oral examination," etc. I objected to this as being in direct opposition to the resolution which had been previously passed by the Council. I was told it had not been passed; and only one man in the room supported me, but on reference to the minutes it was at once shown that I was right. What was the result? The Council stultified itself by passing another resolution, which directly negatived the one passed nine or twelve months before; and what was the explanation of this? Why was I, with others, dragged to the Council meeting, hundreds of miles from home, to negative my own procedure? I knew not then; I know not now, except on the supposition that Peter was drunk when the first resolution was passed, and that he had subsequently had time to become sober. But we gave him ample opportunities to regain his senses. A similar resolution was again brought forward by myself; it was supplemented afterwards by one from our friend Mr. Greaves, but all to no purpose. The second law of the Medes and Persians, even though unjust, was unalterable, and so it remains up to the present. Were we unreasonable in what we asked? Facts in our possession, ready to be adduced when required, prove the contrary. We only asked that a reasonable concession should be made to the struggling student. We were denied it, and that, too, without any reason being adduced, except the fallacious one that it would be unwise to disassociate the oral from the practical, and that if this were done the student would forget his technical subjects by the time he again appeared for his practical.

Gentlemen, how many are there amongst you, even amongst the members of the Council or the Examining Board, who retained sufficient technical knowledge for three or six months after obtaining the diploma to enable you to present yourselves successfully for re-examination in those subjects? I leave you to answer the question, not that I admit this as an argument in favour of the course we have recommended. It is sufficient under that head, in my opinion, to say that if a man has passed one section of an examination, it is neither logical nor consistent to ask him to again go through the same ordeal.

The Examining Board of the Highland and Agricultural Society of Scotland, for several years prior to its dissolution, established the system of examining students in practical subjects first, and if they failed therein they were not allowed to go up for the oral. This was putting the cart before the horse, but it saved the time of the examiners and the pocket of the Society, and the farce of going on with the examination of men who, it was known, had already failed was not perpetrated; neither did the examiners pocket fees for engaging in such a farce.

This leads me on to *the Examination of Students and the management of the Examinations*, and I would ask, in the first place, Is the principle on which the Examining Board is elected a right one, and is its composition faultless? To both questions I answer in the negative. Firstly, the Examining Board is elected on the principle of uniformity. This in itself is commendable enough, but is it just to all sections of students, or is it calculated to save the funds of the Royal College of Veterinary Surgeons? One result of this system is, that no matter how few the number of students may be, so long as it is sufficiently large to constitute a Board, examiners must be dragged from one end of the kingdom to another, and even from Ireland to Scotland, at a very great expense and with much loss of time; and, worse than that, the final Board is almost entirely metropolitan in its composition, notwithstanding the fact that two of its members are Scotchmen, and in some matters, at least, its ideas are neither in accord with Scotch teaching or Scotch practice. Further, it is not sufficiently large, nor is there any provision made for such a contingency as the enforced absence, from illness or other causes, of one or several of its members. Not very long ago—just prior to the receipt of the large accession of income obtained from the fees for the Fellowship degree, the fees exigible from the holders of the Highland Society's certificate and for the registration of unqualified practitioners—the cry was frequently heard that the Royal College of Veterinary Surgeons would soon be bankrupt, and that the examinations did not pay. If that was the case then, how they are likely to pay now, when examiners are paid so much per hour for examining rejected students, and when the whole sum that can legally be demanded for the diploma is £13 13s. od., I fail to see. Some students have paid double this sum in the past; it cannot be exceeded in the future.

In reference to the examinations themselves, the change which has come over the spirit of the scene is a most marvellous one—at least, so far as the C Examination is concerned. A moderate percentage of rejections is no more than could be expected, and could not call forth any comment; and even if we were unfortunate enough formerly to get a large percentage rejected on any particular occasion, it was compensated for by an equally large percentage of passes in the succeeding examinations. But these days seem doomed to be numbered amongst the things of the past, and it is only natural that the inquiry should be made, Why is it so? I confess I am at a loss to understand it, more especially as the class of students has, on the whole, much improved of late years, and the teaching has not retrograded. Speaking for myself and those associated with me, I can say, without fear of contradiction, that our efforts to qualify the men for examination have not abated one jot, and we fail to see how they can be increased or improved.

Some time ago there originated in certain quarters a cry to the effect that the number of students passed was too great, that the screw should be put on, or, in the language of the colliers, the output should be restricted; but I am not aware that those who were responsible for this outcry took the first step towards the consummation of their desire by reducing the number of their pupils, and thus restricting the influx of students to the schools, and I fancy they will not themselves escape scatheless; for most certainly the parents of those who have paid a large sum as a premium, and, in addition, large sums for college fees, maintenance and clothing, will ask for some explanation as to how it is that the time required for the obtainment of the diploma has been so far extended, and, as a consequence, how it is that the expense is so much greater than they were led to anticipate, and *out of all proportion to the prospective profits to be obtained in the practice of the profession*. Two charges were some time ago made against the schools, the first, that they were anxious by the legislation they proposed to get rid of their old students in order to make way for other victims; the second, that they did not object to take extra fees from those who were rejected. These two charges, like many similar ones which have been made against us, are not consistent with each other, for if we desired to increase our fees we should most certainly not do all in our power to facilitate the passing of students, nor should we have proposed that they should be allowed to present themselves for the oral examination first, and if, after passing it, they failed to pass the practical, they should be allowed to go away to practitioners to improve their knowledge.

Then again, we are told that we are inconsistent in contending for this, seeing that we value lightly the teaching of the practitioners. This charge is as void of truth as the others which have been made against us. Speaking for myself I defy any man to show that I have ever underrated the value of practical training; on the contrary, I have done all in my power to urge upon students the necessity of seeing practice during their college career, and as much as they possibly can after they have obtained some scientific knowledge and have got into the routine of study, instead of spending several years in a pupilage before gaining any scientific knowledge; and in no way has the wisdom of this advice been shown more prominently than in the results of the late examinations, in which the fatality has been infinitely greater amongst so-called "practical" than it has been amongst those dubbed as "theoretical" students, even in the very subjects of which it might be assumed that the former possessed the greatest amount of knowledge.

In reference to the cry as to the too-rapid increase of graduates I may ask, Has it any foundation in fact? and if it has, is it the duty of any body of persons to take cognizance of it? or is it any truer in reference to our own than it is in reference to every other profession or calling? Twenty-one years ago or thereby, about sixty-four students presented themselves for examination for the diploma of the Royal College of Veterinary Surgeons. Of these a very small percentage was rejected; and in the same year, if I am not wrongly informed, upwards of thirty others obtained the certificate of the Highland and Agricultural Society of Scotland. Is the increase comparatively so great when you take into consideration the enormous addition to the number of animals and the still greater increase in their value? Moreover, it must not be forgotten that the number of empirics has been, and will in a few years be still more, greatly diminished, and that the services of the veterinary surgeon are sought in a greater variety of ways than a few years ago was the case. If the output of graduates continues to be restricted as it now is, a few years only can elapse before a cry will be raised for a larger supply, and in the meantime one class of men who have of late put their fingers into the veterinary surgeon's pie too frequently—I mean retired army farriers (and

I would ask parenthetically, Will they be allowed to retain this title under the provisions of the Veterinary Surgeons Act?) will profit by the restriction. Supply and demand generally regulate themselves, and some of the older practitioners will tell you that although the supply has increased, the demand has increased in equal proportion—as witness the remark of that veteran practitioner, Mr. Carlisle, to the effect that “when he first went to Cumberland he was the only veterinary surgeon in the county, and the broth was very thin ; but now there were dozens, and there was plenty for all.”

I have said that I do not understand why the percentage of rejections is so largely increased, except on the supposition that more is demanded from students than they can be reasonably expected to know—more, in fact, than is asked from those who aspire to the higher degree of Fellowship.*

In all other examinations a certain percentage of answers is deemed sufficient to pass a man ; in the arts, about thirty ; in medicine, fifty ; and in the sciences (higher than any other, as it should be), seventy-five. Why should the necessary percentage be higher in the veterinary than in the medical profession ?

It may be said it is not. All the answer I have to give to that, is that I am quite confident I have sent men up for examination, and who have been rejected, who were capable of answering more than fifty per cent. of questions if the examinations were ranged equally over the whole of the subjects of study. If an examiner takes one or two particular subjects with which he has made himself thoroughly conversant, he may be in a position to reject almost every student who presents himself, and by such a method I would undertake to reject almost every member of the profession—be he teacher, examiner, or anything else, if he chose to submit himself to the test. It is impossible for a student, unless he is possessed of the brain of a Cuvier, to grasp every subject in its entirety, more especially when the subjects comprised in a single examination may be enumerated, not by hundreds, but by thousands ; and when in order to consider them at all fully, it occupies (as in my own case) a lecturer two hours a day for two winter and two summer sessions to go over them ; and if students do make mistakes are they any worse than practitioners? What about the glaring blunders that we sometimes see committed by men of many years' standing? What about the records of the Law Courts? Half a dozen men swearing on one side that a horse is lame, has a Cataract, a Spavin, a Ringbone, or navicular disease ; half a dozen on the other denying the existence of such defects, and even going so far as to declare that if any man differs from them he is ignorant of the rudiments of his profession.

It may be said, and I have no doubt it will be said, as it has been said before, that the remarks I have made amount to a charge against the examiners. Such has not been my object, but I may be pardoned if I suggest that the action of the examiners may be looked upon by some as an implied censure on the schools, and upon the practitioners who supply us so largely with our pupils. It will further be said that I lean too much to the side of the students. If so, I am ready to admit the soft impeachment. I have myself been a student, I have had to do with the training of a few hundreds of them. I know their difficulties, and I hope am able to sympathise with them in their troubles. I hold that it is a misfortune when a bad student succeeds in “fluking” through an examination, inasmuch as it is apt to confirm the already careless and indolent in their bad habits ; but I hold, still more firmly, that it is doubly a misfortune when a good,

* In the marking, however, I may observe, an “indifferent” in two subjects was not allowed formerly to reject a man if he was fairly well up in other subjects ; now, however, not only is this the case, but a “good,” or even several “goods,” is not sufficient to counteract an “indifferent.”

earnest student is rejected, as it has notably a depressing, or sometimes a maddening, effect upon him individually; but it has also the same effect upon those who come after him, and the rejection will cling as a stigma to him throughout the whole of his life. Some there are who take to "plucking" as the eel is said to take to skinning; but in the case of others, the process is carried out only at the expense of much mental suffering, and leaves its damnatory effects behind for ever.

(To be continued.)

YORKSHIRE VETERINARY MEDICAL SOCIETY.

THE spring quarterly meeting was held at the Queen's Hotel, Leeds, on April 8th, the President, Mr. Parlance Walker, in the chair. The following members were also present, viz., Messrs. M. E. Naylor, T. Greaves, J. S. Carter, J. W. Anderton, T. Fletcher, J. M. Axe, W. G. Schofield, Geo. Carter, R. L. Robertson, G. Bowman, G. Whitehead, G. T. Pickering, and the Secretary.

Mr. R. Rowe, A.V.D., was present as a visitor.

Apologies for non-attendance were received from Prof. Williams, Messrs. E. C. Dray, Jas. Freeman, Josh. Freeman, Ferguson, Greenhalgh, Peter Walker, Danby, Cooper, J. H. Carter, and F. P. Carter.

The minutes of the annual meeting were read and confirmed.

The SECRETARY proposed and Mr. CARTER seconded the election of Mr. Arthur W. Mason, Leeds.—Carried.

The PRESIDENT proposed and Mr. ROBERTSON seconded the election of Mr. Jas. Bell, Brighouse.—Carried.

The SECRETARY drew attention to the absence of their highly-esteemed and valued friend, Mr. Jas. Freeman, from long-continued indisposition, and moved that a letter, expressing the sympathy of the members, be forwarded to Mr. Freeman. Seconded by Mr. J. M. AXE, and supported by Mr. NAYLOR.—Carried.

The subject of the ensuing election of members of Council was next considered, the SECRETARY explaining the correspondence that had taken place upon the matter with other societies.

After considerable discussion, in which Messrs. Anderton, Carter, Naylor, Greaves, Axe, and Schofield joined, it was decided, upon the motion of Mr. NAYLOR, seconded by Mr. GREAVES, and supported by the PRESIDENT, that Mr. W. Geo. Schofield, of Pontefract, be nominated as a candidate for a seat in the Council at the forthcoming election.

Mr. CARTER proposed and Mr. NAYLOR seconded that the Secretary be empowered to act with the Lancashire, Liverpool, and other societies, in order to ensure the return of Prof. Williams, T. Greaves, G. Morgan, and W. G. Schofield.—Carried.

The SECRETARY read the paper on "Docking," edited by Mr. E. Stanley, of Warwick; and after some discussion, in which Messrs. Greaves, Fletcher, Naylor, and the President joined, Mr. CARTER proposed and Mr. AXE seconded the motion: "That this Society endorses the resolutions adopted by the Midland Society last Friday, and that the Secretary forward the resolutions to Mr. Hill, for presentation to the Council at the meeting to-morrow, the 9th inst.—Carried.

Mr. T. FLETCHER exhibited the half of a large mammary tumour which he had excised from a mastiff bitch five years old. The tumour had grown very rapidly, and was safely removed with the écraseur, the bitch recovering quickly. There was considerable deposition of calcareous matter in the substance of the tumour.

Mr. SCHOFIELD said he had experienced five or six cases of partial Paralysis before calving in a few days ; all did well after parturition.

Messrs. CARTER and FLETCHER made a few remarks upon the subject, and were of opinion that the principal cause of this affection was disturbance of the nervous functions of the stomach.

Mr. ROWE related a case of ruptured diaph. in the horse, attended with vomition.

Messrs. GREAVES and AXE related singular cases of chronic rupture of the diaph.

The SECRETARY exhibited an interesting specimen of ossification of the os coronæ upon its anterior and posterior surfaces.

NORTH OF ENGLAND VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of this Association was held on February 29th, at the County Hotel, Newcastle-on-Tyne, D. M'Gregor, Esq., President, in the chair.

There were present—Messrs. Peele, Durham ; Hedley, Darlington ; Mulvey, Bishop Auckland ; Wheatley, South Shields ; Awde, Stockton-on-Tees ; Blench, Thornley ; Elphick, Stephenson, Hy. Hunter, Mitchell, Wm. Hunter, and the Secretary, Newcastle-on-Tyne ; and among the visitors were Professors Walley and Lewis, Edinburgh, and Messrs. Greaves, Manchester ; W. O. Williams, Edinburgh ; Stevenson, Sunderland ; and Elphick and Gresty, Newcastle-on-Tyne.

The minutes of the previous meeting having been read and confirmed, Professors Williams, Edinburgh ; McCall, Glasgow ; and Robertson, London, were unanimously elected Honorary Members of the Association.

Mr. ELPHICK proposed, and the SECRETARY seconded, Mr. Gresty, of Newcastle-on-Tyne, as a member of the Association.

It was proposed by D. M'GREGOR, Esq., President, and seconded by J. PEELE, Esq., Vice-President, and carried unanimously, that Mr. W. J. Mulvey, of Bishop Auckland, be nominated by this Association for election on the Council of the Royal College of Veterinary Surgeons.

Professor WALLEY then delivered a most interesting and exhaustive lecture on Hernia, the discussion on which was adjourned till next meeting. The meeting was brought to a close by hearty votes of thanks to Professor Walley for his valuable lecture, and to the President for occupying the chair.

The annual dinner was afterwards held under the presidency of D. M'Gregor, Esq., and was largely attended by the members and their friends. After the loyal and patriotic toasts had been duly honoured, Professor WALLEY, in responding to the toast of the Royal College of Veterinary Surgeons, drew attention to the good done by this and similar associations in promoting good feeling among the members, and expressed a hope that the North of England Veterinary Medical Association would be successful in securing for their nominee a seat at the Council Board of the Royal College of Veterinary Surgeons. In responding for the visitors, T. GREAVES, Esq., gave an interesting account of the good work done by the Veterinary Benevolent and Defence Associations, and urged every member of the profession present to become subscribers. A number of veterinary topics were discussed, several songs given, and a most enjoyable evening spent.

WILLIAM W. SMART, *Hon. Sec.*

CENTRAL VETERINARY MEDICAL SOCIETY.

A MEETING was held on the 6th March, at Red Lion Square. Professor Pritchard presided. The other Fellows present were Messrs. T. G. Chertman, W. Hunting, T. Moore, J. Rowe, A. Broad, C. Sheather, H. J. Hancock, J. Hall Brown, F. G. Samson, and G. R. Dudgeon.

The SECRETARY laid before the meeting the bones of the fetlock joint taken from a horse which had received injury in a fall. The animal had suffered excruciating pain, with severe inflammation, enlargement, and purulent abscesses. Slinging, setons, etc., were resorted to ; healing followed extraction of the seton, and blistering, followed by cold water application, so far completed the cure that the patient could walk fairly well, but so much stiffness of joint remained that slaughter was decided upon. The specimen exemplified the condition of the parts in approaching ankylosis. A vascular circle of new bone-growth surrounded the margins of the joint, the interior of which was much eroded.

After various points of the case had been considered, and similar cases alluded to, Mr. HUNTING read an essay on the treatment of Spavin. He reviewed the various measures employed, and alluding to the pamphlet published by him three years before, said he wished to modify some of the statements therein contained. Section of the internal divisions of the tendon of the flexor metatarsi was not a cure for the lameness of all spavined horses, though his first experiences of the operation had encouraged him to think so. He soon had failures, and had now relegated the operation to its proper place in surgery. It was most suitable in cases of old standing, where there was considerable exostosis. In several cases in which firing had been resorted to without benefit, division of this tendon had given speedy relief.

Mr. SAMSON said he had not tried the operation advocated by the essayist, but speaking of the treatment of Spavin, he would say there was nothing so effectual as "firing." But, he contended, horses are not energetically treated sufficiently early. The osseous deposit is allowed to develop, and then frequently blistering and firing are found to be useless. Take the case, he said, of Irish horses : the breeders are practical men, and when they have a two or three-year-old horse with hock lameness, they "fire" at once ; hence we see so many Irish horses with disfigured hocks, but they are sound, and remain so, either for harness work or hunting. He said the essayist mentioned "plugging," and he would give his experience on the point. While in the eastern counties he had often practised the operation, passing upwards beneath the skin a pledget of cotton wool dipped in nitric acid, from an incision made just below the Spavin ; the blemish was exceedingly slight, and in the case of young horses, the result good. He agreed with Mr. Hunting that in the case of a young horse intended for sale, repeated blistering would be commendable treatment, but the cure should not be expected to be lasting.

Mr. SHEATHER said he had experience of Mr. Hunting's operation ; after reading the pamphlet published he took up the operation, very hopefully, having several cases on which to test it. The first one operated upon was a mare which had been lame three months. The Spavin was large and well defined ; in twelve days after the tenotomy the mare was at work quite sound. However, failures followed, and it became evident that discrimination was necessary in selecting cases ; the older class of Spavins were the ones which received benefit. Out of twenty-six horses operated upon, sixteen were cured of their lameness. The operation does no harm, and if no good result follows, other measures can be resorted to. He had found an account of this treatment in Zundel's "Dictionary of Veterinary Medicine," and the

statement is made that the slitting of the sheath is equivalent to dividing the tendons, but it appears that this division of the tendon has no sheath, it passes over a bursa; possibly the injury to this bursa accounts for the benefit resulting from the operation. Finding that the use of a scalpel was attended with danger, he had devised a hook-shaped instrument, sharpened within the curve; he passed it into the incision flatwise, till it had passed the edge of the tendon, when the curve could be bent under, and its extraction caused the required division. An improvement would be to use a small heart-shaped blade concealed in a probe, and manipulated from the handle.

Professor PRITCHARD said he had never performed the operation described by Mr. Hunting, although he had performed similar ones with a sharp firing-iron; instead of firing the hock as usual, he had made one or two deep incisions through the skin till the fibrous tissue was exposed, and then had carefully severed the fascia, which, in this position, was dense and strong. He was inclined to think that this tendon-cutting operation had failed in some cases in which, had the layer of fibrous tissue been also divided, a successful result would have been brought about. He emphasised this point, as he was acquainted with a practitioner who performed this operation fifty years ago, and guaranteed that he would cure the lameness in any hock not affected with ulcerative disease; his plan was simply to divide the layers of fascia over the osseous enlargement. He had, in conjunction with the practitioner referred to, also successfully operated in this manner for Ring-bone, dividing in this case the extensor pedis tendon; an ugly scar resulted, but the animal became sound. It may be said that there is a risk of getting an open joint; and there certainly is, not so much from the actual incisions as from the resulting inflammation, and he had had to contend with this difficulty, though never with any want of success. With regard to deep firing in general, he did not believe in its necessity or advantage; for many years he had satisfied himself that if the lines were drawn less deep, and closer together than was the rule with the old practitioners, say at a distance of half an inch apart, better results will follow, with but a fractional part of the blemish which follows deep firing. In reply to Mr. Samson, he said that in none of the cases in which he had divided the extensor pedis tendon, did ankylosis result in consequence of injury to the joint.

Mr. HALL BROWN considered that firing was not early enough resorted to in cases of Spavin; he could endorse the opinion of Professor Pritchard as to dividing the fascia. He practised deep firing for Spavin, and had punctured the joint, the patients returning to work sound afterwards.

Mr. ROWE asked what distance the ends of the divided tendon receded, and whether Mr. Hunting had examined any horse, *post-mortem*, upon which the operation had been performed.

Mr. HANCOCK, in answer to the query of the essayist as to the relative value of the different modes of treatment, said that we could not select any one method as being better than all others; he considered many good, and equally good, for the kind of case for which they were suitable, blistering being efficacious for Spavins in the early inflammatory stage, firing for more advanced cases, and the deep firing recommended by Mr. Brown being very beneficial when there is much ossific deposit.

Mr. HUNTING said that, with regard to the subjects proper for operating upon, Mr. Sheather had come to the same conclusion that he had, viz., that the older cases were most likely to be cured. In treating a recent case he would fire first, and if no improvement followed, would divide the branch of tendon over the enlargement. It was impossible to lay down a strict rule as to which cases to perform the tenotomy upon. About two years ago a horse was brought to him for operation; there was hardly a trace of osseous enlargement, the animal went

very lame for the first two or three hundred yards of each journey, but only then ; he was surprised to find the operation perfectly successful. Possibly some benefit is caused by the counter-irritation which operating produces. As to Professor Pritchard's remark about the division of tendon having probably been effected when he has often fired deeply through the fascia, he would say that the same was said to him by Mr. Cox, that he had no doubt performed the operation in this way without knowing it. Several members, he said, had advocated deep firing, and it was an opinion on this point among others which he wished to elicit, knowing there must be a quantity of valuable experience in the profession. He thought the ends of the tendon separated about the third of an inch ; he had not examined, *post-mortem*, the hock of any horse which had undergone the operation, but had no doubt the divided ends reunited ; probably the bursa beneath the tendon is destroyed by the inflammatory action, and the tendon united by a mass of fibrous tissue.

He agreed with Mr. Hancock in thinking that each mode of treatment was good under certain circumstances, and one idea he had when bringing the subject forward was to elicit opinions founded upon the practical experience of all, so that we might get nearer to the point desired, that is, to be able to say of each case of Spavin which mode of treatment has the best chance of success. He did not overlook the fact that it would be impossible, in some cases, to diagnose the existence or absence of ulceration.

Professor TUSON has consented to read an essay at the meeting on May 1st, subject—"Some New Disinfectants." ALFRED BROAD, *Secretary*.

MONTREAL VETERINARY MEDICAL ASSOCIATION.

THE usual fortnightly meeting of the above Association was held on March 6th ; Mr. M. C. Baker, V.S., President, in the chair.

A very interesting paper was read by Mr. CRUNDALL, student, on diseases of the kidneys, illustrated by a large collection of calculi and surgical instruments. At the conclusion Mr. Crundall was complimented on the merits of his paper by Mr. Alloway and Professor McEachran, and he was requested to send it for publication to one of the veterinary journals.

After the discussion which followed, Mr. C. J. ALLOWAY, V.S., in a short paper called the attention of the meeting to the disease at present prevailing as an epizootic in the city, which was remarkable for the facility of its inoculation, several grooms having been inoculated from dressing horses' heels while they had sores on their fingers. He was inclined to look upon it as varioloid in its nature, but admitted that it presented some features different from the Equine Variola which prevailed in 1877.

Professor MCEACHRAN being called upon to give his opinion, explained that at one time all eruptions on horses' heels were designated Grease, and even to-day some leading men in the profession disputed the existence of Variola in horses. Even the great Dr. Jenner, who conferred, perhaps, the greatest blessing on humanity that ever was conferred by one man, viz., immunity from the fell scourge of Small-pox, by his great discovery of the protecting influences of vaccination, supposed that vaccine in the cow is derived from "Grease" in horses' heels, and failed to recognise a genuine Variola in horses. As was well known, there had been two well-marked visitations of Horse-pox in Montreal, the last of which was in 1877, an account of which was published by the speaker in the *Veterinarian* at the time. He had also seen a good deal of the now prevalent disease, and had published a paper on it, in 1876, in the VETERINARY JOURNAL, under the title "Furunculus in Horses' Heels." He was convinced that the present disease is not varioloid ; that it is what has long been described as "Grease"—that,

in fact, it is an erysipelatous inflammation of the skin covering the hollow of the pastern, complicated by extensive Cellulitis, and in many cases becoming furunculoid, and terminating in the true Carbuncle, large bluish-black blebs bursting out in different parts of the heels and legs. The eruption takes place within a few hours, and after the disease attains its full intensity, the epidermis being raised by the odorous serosity which infiltrates the dermis and drops freely from the hairs; whereas Horse-pox went through the well-known marked stages—local congestion, vesicular eruption, pustules, and desiccation—never forming blebs, or assuming the carbuncular forms. He remarked that the cases of inoculation were simply blood-poisoning from animal matter, and differed essentially from the inoculation from Equine Variola, and that it is far more severe and more apt to produce serious consequences.

Mr. ALLOWAY read the symptoms described in the VETERINARY JOURNAL, which differed materially from the present disease.

Professor MCEACHRAN remarked that it had been mentioned to him that a member of the profession in the town was endeavouring to make money by the sale of powders, which he pretended would prevent the Variola, as he termed the disease. He trusted no honourable member of the profession would engage in such quackery, and hoped that such practices would be condemned by the profession and the public.

Votes of thanks were then tendered to the essayists.

Mr. Charles McEachran was elected secretary and librarian for the summer months.

The meeting then adjourned.

THE ROYAL (DICK'S) VETERINARY COLLEGE, EDINBURGH.

THE distribution of prizes competed for by the students attending this College took place recently within the Council Chambers, under the presidency of Lord Provost Harrison, and in presence of a large number of ladies and gentlemen, amongst whom may be mentioned, Bailie Hall; Councillors Baxter, Tait, Clapperton, McDougall, Dryburgh, and Turnbull; R. Adam, City Chamberlain; Alexander Harris, Depute Town Clerk; A. Campbell, Magistrate's Clerk; W. Skinner, Town Clerk; Mr. Hallen, M.R.C.V.S., Professor Baird, W. J. Smith, V.S. Tranent, Alexander Grey, M.R.C.V.S., Lieut.-Col. Sir Wm. Dunbar, James McCaukie, Esq.

The LORD PROVOST said he believed the College was never in a more prosperous position than it was at present, and with a love of rivalry which, he thought, was characteristic of Scottish people, he might say frankly that he was very glad to see that both the Veterinary Colleges in Edinburgh were very prosperous. (Applause.) He had not the slightest doubt that the University of Edinburgh would not have occupied the position it did to-day had there not been a thriving extra-mural school; and he was quite sure their Veterinary College was in a better position than it would have been had there been no rival school. (Applause.) It was a stimulus to them to exertion, and prevented them resting on their oars, because there was a natural tendency to laziness in the human animal which ought to be prevented from manifesting itself. (Laughter.) Alluding to the changes in the rules for examination, his Lordship remarked that they felt it was desirable that all their students should be cultured gentlemen. (Applause.)

Principal WALLEY said that as heretofore the competition for the prizes had extended over several years—in fact, over the whole scholastic career of the competitors, and in every case the fight for the coveted honours had been a hard one. He was glad to say that the working of the College during the past year had been everything he could wish,

and he had again the pleasant task of thanking all his colleagues for their loyal and hearty support. It would be gratifying to his Lordship and to those gentlemen associated with him as trustees of the College to hear that the improvements which were carried out in the College buildings at the commencement of the session had been, both to teachers and to students, of the greatest possible assistance. One pleasant feature of the session, and, he thought, a step in the right direction, had been the desire of the students to inaugurate healthy and legitimate amusements. Again they had to record their thanks to the Highland and Agricultural Society for the encouragement offered to students by the donation of class silver medals, and to Mr. Harris for his encouragement of one particular branch of their profession—namely, cattle pathology—by offering a gold medal for competition. (Applause.)

The Lord Provost distributed the awards as follows :—

Certificates of Merit in Matriculation Examination.—1880-1881—Mr. Henry Charles Fergusson and Mr. Richard Miller ; 1881-2—Mr. Wm. Robert Davison and Mr. Alexander Wood. *Materia Medica*.—1880-81—Silver Medal, John E. Tudor ; 1881-2—Silver Medal, Charles Cowie. *Botany*.—Silver Medal, Benjamin O. Meek. *Chemistry*.—Gold Medal, Charles Cowie, Silver Medal, W. R. Davison. *Junior Anatomy* (Professor M'Fadyean).—1881-82—Silver Medal, W. R. Davison. *Anatomy*.—1882-83—Gold Medal, W. R. Davison ; Silver Medal, Charles Cowie. *Physiology*.—Gold Medal, W. R. Davison ; Silver Medal, Charles Cowie. *Veterinary Medicine and Surgery*.—Bronze Medal, Charles Cowie. *Practical Morbid Anatomy*.—1883-84—Gold Medal, George Ellison ; Amateur Silver Medal, W. G. Mitchell Innes ; Silver Medal, Charles Cowie. *Cattle Pathology*.—Gold Medal, Thomas Butcher ; Silver Medal, Alfred Kershaw. *General Excellence*.—Silver Medal, Henry Charles Fergusson. *Certificates of Merit*.—Frank G. Ashley and R. O. F. Stewart. *Pharmacist Certificates*.—George Ellison, F. G. Ashley, J. E. Tudor, and R. O. F. Stewart. *Veterinary Medical Association for Best Communication*.—Silver Medal, Charles Cowie.

After a few remarks by Bailie HALL, the LORD PROVOST moved a vote of thanks to the Highland and Agricultural Society, and mentioned that one of their prizetakers, Mr. Fergusson, was also the winner of that Society's £10 bursary—(applause)—while an old student, Mr. John Malcolm, had obtained the Society's highest diploma in agriculture. (Applause.)

Principal WALLEY moved a vote of thanks to the Lord Provost, and the proceedings terminated.

NEW VETERINARY COLLEGE, EDINBURGH.

Prize List, 1884.

The £20 Prize presented by the PRINCIPAL—Mr. A. J. HASLAM.

The Silver Medal for Horse Pathology—Mr. A. J. HASLAM.

The Certificates of Merit—

1st Class, Horse Pathology—Messrs. Joseph Purdy, John J. Ridley.

2nd Class, Horse Pathology—Messrs. Jas. Platt, Wm. Lothian, John F. Dixon, and T. A. Rudkin.

Silver Medal, Cattle Pathology—Mr. A. J. Haslam.

Certificates of Merit—Messrs. Wm. Lothian, T. A. Rudkin, A. F. Durkie, Jas. Platt, and J. F. Dixon.

Silver Medal, Anatomy—Mr. Moore.

Certificates of Merit—Messrs. Robinson and Connachie.

Silver Medal, Physiology—Mr. Moore.

Certificates of Merit—Messrs. Connachie and Robinson.

Silver Medal, Chemistry—Mr. Charlton.

Certificates of Merit—Messrs. T. Atkinson, Bowhill, Bradley, and Hall.

The "Wallace" Medal, Chemistry—Mr. Harris.

The "Falconer King," Chemistry—Mr. William Fenwick.

The Silver Medal, Botany—Mr. Connachie.

The Silver Medal, Materia Medica—Mr. Moore.

Certificates of Merit for Dressing, Dispensing, and Visiting.

1st Class—Messrs. J. T. Ashton, T. Borthwick, R. Brizell, J. T. Crosby, A. Conisbee, —. Charnock, A. F. Durkie, A. Darwell, J. Faulkner, J. Forgham, A. Gledhill, Wm. Lothian, S. W. Martin, T. O'Malley, J. J. Ridley, and James Platt.

2nd Class—Messrs. Berry, J. F. Dixon, T. J. Davies, James Hanbury, A. J. Haslam, —. Kendall, D. Lyons, James Malone, M. O'Carroll, Jos. Purdy, and T. A. Rudkin.

3rd Class—Messrs. C. Dyson, H. E. Hallam, Jones, Lennox, Jas. Purdy, Richardson, Settle, Spinks, and Spruce.

Curator's Certificates—Messrs. Ashton and Crosby.

Prosecutor's Certificates—Messrs. Haslam and Ashton.

Professor A. N. Macalpine, B.Sc. Lond., lecturer on botany and natural history at this school, has been appointed Consulting Botanist to the Highland and Agricultural Society of Scotland.

Jurisprudence.

SHERIFF-SUBSTITUTE BUNTINE, at Stirling, has just given judgment in an action of considerable interest to veterinary surgeons and horse-dealers. The circumstances, as disclosed in the proof, are as follows:—At Balloch Fair, on 15th September last, Mr. A. C. Douglas, The Mains, New Kilpatrick, bought a four-year-old Clydesdale mare from Mr. W. Walker, horse-dealer, Stirling, the price being £90. The mare had been twice sold previously the same morning, and Mr. Walker passed on to Mr. Douglas the warranty he had received with the animal, and which was to the effect that she was sound and correct in every way. After taking the mare home, Mr. Douglas' grievance heard that she was suspected of being affected with the disease known as "Shivering," and Mr. Douglas caused her to be examined first by the veterinary surgeon at Milngavie, and afterwards by Professor M'Call, Glasgow, both of whom declared that they could discover no symptoms of Shivering about the animal. She was then put to farm work, and as long as she was kept at the plough there was no appearance of any defect in the mare; but shortly after, being worked in a cart, symptoms of nervous disease became visible, and she was at once pronounced a "shiverer" by the local veterinary surgeon, a verdict which was confirmed by Professor M'Call on 27th November. Mr. Douglas then wrote to Mr. Walker intimating that the animal was unsound, and that he intended to return her as disconform to warranty. Mr. Walker refused to take back the mare, and, after standing at livery with Professor M'Call for three weeks, she was sold under warrant of the Sheriff for £35.

Mr. Douglas then raised the present action against Mr. Walker for repayment of the £90, with £10 in name of veterinary and other expenses. It appeared from the evidence that the mare was bought from the breeder at Lochgilphead Fair three years ago for £35, but was returned as unsound; that two years afterwards she was exposed by the breeder at Lochgilphead, and sold for £36 10s., the purchaser again returning her as unsound; that

she was then bought by Mr. Clews, a Barrhead horse-dealer, at £37, and sent to grass for three months ; that Mr. Clews sold her at Balloch Fair to a Mr. Allan for £73, and the latter sold her to Mr. Walker for £80.

Professor M'Call, in his evidence, stated that Shivering was a nervous disease, constituting the worst form of unsoundness. It was hereditary and incurable, but was sometimes latent, and rest and quietness would cause the symptoms to disappear.

For the defence, nine veterinary surgeons were examined, including Principal Williams, Edinburgh, all of whom declared that the mare was not suffering from Shivering, and had never been affected with the disease.

Principal Williams said that Shivering was a disease the symptoms of which were always discernible, and no treatment would cause them to disappear even in young subjects. If the proper tests were applied, an examination of a quarter of an hour was sufficient to discover the existence of the disease.

The Sheriff finds that Mr. Douglas is barred from pursuing the present action for repetition of the price of the mare by reason of his failure to give timeous intimation of rejection as disconform to warranty, and therefore assoilzies the defender from the conclusions of the summons, and finds him entitled to expenses of process. In the note to his interlocutor the Sheriff refers to the conflicting nature of the professional evidence, but points out that the pursuer was warned of the suspected latent fault in the animal, and his duty was, after a reasonable preparation, to put the mare to the use for which he had purchased it—namely, ordinary farm work, including carting. He, however, did not do so. On the other hand, he gave it light work, and it was only after about two months' delay that he put its powers to the test. It would be unjust to the seller that he should be kept so long in suspense. The challenge must be made in a shorter time, or the pursuer would be held to have passed away from the right to make it. In the view of the Sheriff-Substitute the rejection of the mare, even if justifiable on the ground of unsoundness, was not timeously made.

Sheriff Buntine's decision has been appealed against to the Sheriff-Principal.

Obituary.

WE have to announce the death of the following members of the profession :—W. T. Polding, Blackburn ; S. Smith, Saffron Walden ; R. Reynolds, Mansfield, Notts, graduated 1835 ; A. G. Ross, Liverpool (late of the Army Veterinary Department) ; and C. Simpson, Manchester, one of the oldest practitioners in that city.

Dr. Ludwig Franck, Professor at the Munich Veterinary School, and an Honorary Associate of the R.C.V.S., died last month at the comparatively early age of fifty years. He occupied a very prominent position in Germany as a veterinarian, and, in addition to many other works, produced a most excellent text-book of Veterinary Anatomy, and another on Veterinary Obstetrics.

We are also sorry to report the death of Dr. Allen Thomson, LL.D., F.R.S., who was for some years examiner in physiology in the Scottish Section of the Board of Examiners, R.C.V.S. Dr. Thomson was a very distinguished anatomist and physiologist, and at different periods held Chairs in these subjects in each of the three great Universities of Scotland. In the study of embryology he first made his name famous, and was regarded as one of the highest authorities in that department. He was a large contributor to medical literature.

Army Veterinary Department.*Gazette, April 1st.*

THE undermentioned veterinary surgeons on probation to be veterinary surgeons. Dated 12th September, 1883:—A. F. Appleton, A. H. Waddel, E. H. Hazleton, L. J. Blenkinsop.

Gazette, April 22nd.

Veterinary Surgeon Matthew C. Mitchell to be veterinary surgeon, first-class. The under-mentioned veterinary surgeons on probation to be veterinary surgeons:—Thomas Pottinger, Richard W. Raymond.

Notes and News.

VETERINARY HONOURS.—It affords us much pleasure to announce that Professor Saint-Cyr, of the Lyons Veterinary School, has been elected a member of the Paris Academy of Medicine by forty-six votes out of fifty. This is an honour deservedly bestowed on a member of the veterinary profession, for excellent work done in human and animal medicine.

SERIOUS HORSE DISEASE.—One of the largest forwarding agents in Liverpool has lost horses to the value of £1000 from a disease which is baffling the skill of the most eminent veterinary surgeons. About two months ago an experiment was commenced in feeding the animals on American hay and lentils combined, but *post-mortem* examinations have failed to show whether this has been the cause of the mortality.

RECOVERY FROM HYDROPHOBIA.—An alleged recovery from Hydrophobia is reported in the *British Medical Journal*. The case was under the care of Dr. John Buxton, of the Army Medical Department, and occurred at Peshawur. The patient was a boy of five, who had been bitten by a mad bulldog. The doctor administered tincture of Indian hemp to mitigate the boy's sufferings, but was agreeably surprised to find that, after ten hours' sleep, he awoke perfectly well.

GLANDERS IN GERMANY.—The Minister of Agricultural Domains and Forests has issued a circular relating to the instructions issued on the 24th of February, 1881, ordering periodical examination of horses suspected of Glanders. The inspectors are instructed to give direct notice of the value of the animal under inspection, as in some cases the value of the animals examined and doctored was found to be under the sum which the inspection costs the State. In such cases, it is now ruled that the horse be killed, and the value be given to the owner as compensation.

THE ELEPHANT'S ENEMY.—Mr. Percival, when speaking of the elephants of Ceylon, remarks: "These lords of the forest, though from their size and strength formidable to all its other inhabitants, themselves live in continual apprehension of a small reptile, against which neither their sagacity nor their prowess can at all defend them. This diminutive creature gets into the trunk of the elephant, and pursues its course till it finally fixes in his head, and by keeping him in continual agony, at length torments the stupendous animal to death. So dreadfully afraid are the elephants of this dangerous enemy, that they use a variety of precautions to prevent his attacks; and never lay their trunks to the ground, except when to gather or separate their food."

HYDATID DISEASE IN AUSTRALIA.—Dr. David Thomas, a medical man practising in Adelaide, South Australia, has lately published the results of a series of experiments carried out by him with the view of ascertaining the prevalence of *Tænia Echinococcus* in the dogs of Adelaide, Melbourne, and of the south-eastern district of South Australia. The results thus obtained are carefully tabulated, and prove that not less than 40 per cent. of the unregistered dogs in these districts were infected with this parasite, the ova of which are conveyed into man by the drinking of impure water. He suggests that stray dogs should be destroyed. No dogs should be permitted to enter butchers' premises, or to drink from the same source as man or sheep. On the other hand, covered tanks should be used, and water used for drinking should be always either filtered or boiled. Dr. Thomas hopes that with the knowledge thus provided, "in ten years' time Hydatid Disease will be, to all practical purposes, extinct."

ENGLISH HORSES.—Gervase Markham, writing in 1617, says of the English horse of that day: "Some former writers, whether out of want of experience, or to flatter novelties, or else collecting their works from other writers, in which, not finding the English horse named, they have thereupon concluded that he is a great strong jade, deep ribbed, and 'sid-bellied,' with strong legs, and good hoofs, yet fitter for the cart than either the saddle or any worthy employment. How false this is all English horsemen know, and myself dare justify; for the true English horse indeed—him, I mean, that is bred under a good clime, on firm ground, and in a pure and temperate air—is of tall stature, and large proportion; his head, though not so fine as either the Barbaries or Turks, yet it is lean, long, and well-fashioned; his crest is high, only subject to be thick if not castrated, but if he be gelded, then it is thin, firm, and strong; his chine is straight and broad, and all his limbs large, lean, flat, and excellently jointed, in them exceeding any horse of what country soever. Now for their inward goodness; first for their valour and endurance in the wars, I have seen them suffer and execute as much and more than ever I noted in any other of foreign creation. I have heard it reported that at the massacre in Paris (St. Bartholomew's Eve, August 24th, 1572), Montgomery, taking an English mare, swam over the river Seine, and afterwards ran her so many leagues as I fear to nominate, lest misconstruction might tax me of too lavish report. And I have heard Master Romanus say, the most enduring beast that ever he rode was an English mare. Again, for swiftness, what nation hath brought forth that horse which hath exceeded the English?"

TUBERCULOSIS IN AUSTRALIA AND NEW SOUTH WALES.—At the last sitting of the Tuberculosis Board, at Melbourne, Mr. W. T. Kendal, M.R.C.V.S., Melbourne, said that nearly all the cases he had seen had been about Melbourne, but he believed the disease was common in South Gippsland and the Goulbourn Valley, and thought it widely spread. It might be spread in inoculation by mistake for Pleuro by incompetent persons, but he had known no cases of hereditary transmission from affected imported stock. Many tuberculous cattle came from New South Wales and Queensland, and inspection on the Border ought to be strict.—We learn from the *Sydney Mail* that a further communication has been received by the Minister of Mines from Mr. Anthony Willows, of the New South Wales Stock Department, who is in Tasmania, inquiring into the subject of Tuberculosis and its effect upon rabbits. Writing to the Chief Inspector of Stock, Mr. Willows says: "There is no doubt that Tuberculosis is killing off great numbers of rabbits here, and is extending over a large district. We have caught three rabbits similarly diseased ten or twelve miles, and in opposite directions, from Ellenthorpe. I have already caught fifty rabbits in the infected dis-

strict, and intend returning to catch fifty more for examination, in about a week, in order to be able to make a full report. I think we ought to have a hundred of these diseased rabbits imported as soon as possible. If the order is not given soon, there may be such a demand for them here that unless Mr. Brown reserved them for us we may have a difficulty in getting them. I cannot at present see or hear of any disease propagated to live stock through them. This form of Tuberculosis is entirely confined to the liver, and is of a slower nature and takes longer to run its course than that artificially produced by me. Hence its value to us." Mr. Willows has been requested by the Premier of Tasmania to report to the Tasmanian Government upon cattle disease in that colony. It has been stated that Tuberculosis prevails amongst the cattle of Tasmania from one end of the colony to the other, and in the other colonies also.—[We may entertain doubts as to whether the disease in rabbits is really Tuberculosis.]

Correspondence.

"DOCKING."

SIR,—The operation of tail-amputation is just now engaging the attention, not only of the public, but of the veterinary profession at large ; and it must be confessed that by far the majority of members of the latter are in favour of its continuation—in fact, the minority may be said to be an extremely meagre one.

I do not intend, strongly as I am opposed to vivisection, of which docking may be alleged to belong, to condemn the operation, except as performed by unprofessional men, and when *unnecessary*; because there do continually arise circumstances under which it is absolutely necessary to shorten the dock, and these have been already ventilated. I merely propose suggesting that the first principles of humanity should, in every case, be practised when the operation is performed. Frizzling the end of the bleeding stump is not a scientific termination to docking ; the arteries can as readily be taken up and tied or twisted, for the purpose of staying hæmorrhage, as the application of the cautery, and without half the danger, commotion, and altogether without the production of agony, such as the red-hot iron and boiling resin produce. But even arterial ligature or twisting is not absolutely necessary, and never so in young horses. A good pad of tow or cotton wool placed against the amputated surface, and maintained in apposition by tying the hair closely over it, will be effectual in preventing hæmorrhage. This was always the procedure of the gentleman with whom I was a pupil twenty years ago, and I never saw an untoward result.

Another method of docking, and one deserving of notice, was mentioned to me by Mr. Ackroyd, M.R.C.V.S., of Keighley, last week, viz., instead of the transverse amputation, he uses a V-shaped blade, which removes the centre of the tail ; and then having tied the arteries, the sides are brought together with two or three stitches, and when healing is accomplished, a point is left to the tail, instead of a blunt end.

There is no reason why an animal should not be placed under the influence of an anæsthetic when docking has to be performed. If chloroform or ether is objected to, chloral hydrate may be administered ; and I am quite sure plenty of veterinary surgeons would be willing and pleased to adopt these measures, if they were so desired and adequately remunerated for the extra trouble, time, and humanity. Docking for half a crown or five shillings, the accustomed fees, will not pay for the extra time and anæsthetic, and if

docking is considered such a vast improvement and commercial advantage, a *just* professional fee should be paid, and the veterinary surgeon be afforded an opportunity of saving suffering.

Many operations,—unsoling, and burning out the so-called “lampas,” to wit—belong to the dark ages of bigotry, superstition, and ignorance. One can imagine the outcry that would attend the revival of “nicking,” and yet surely the *short* dock, as opposed to the medium amputation adopted for many years, is a revival. But the question at issue is—Are we justified in docking at all? My reply would be, when it is clearly proved that a horse is dangerous to drive with his natural tail, or when, through deformity or disease of that organ, it is necessary to amputate. Then, and then only, will it become imperative to shorten it, in accordance with the circumstances.

Fashion leads individuals to extremes ; she has been a hobby-horse far too long, and in the subject of docking, veterinary surgeons, in common with other people have, in my opinion, ridden her to death. The apology for a tail seen on polo ponies is a disgrace to the operator, and little less so is the removal of mane and fore lock.

I say, let us exercise our own judgment *on facts*, as veterinary surgeons, before we operate, but protest against any surgical measure for the mere sake of fashion.

With such a large and influential gathering as that which I attended at Birmingham on the 5th, connected with the Midland Counties Veterinary Medical Association, I was not the only member of the profession present who felt disappointed that the subject of “docking” was so cursorily dealt with, when the circular issued led the recipient to expect a thorough discussion—forty-eight minutes, in which were included the moving and seconding of several resolutions, being occupied. Of course, time, tide, trains, and sometimes dinner, wait for no man ; but I think upon such an important subject, and the strong arguments advanced in the papers by Dr. Fleming and Mr. Stanley, it should either, after the preliminary business, have occupied the entire afternoon, or its further discussion have been adjourned.

It may be said that the voice of the meeting was taken in carrying the resolutions. As to the *resolutions*, probably so ; but certainly not as to the *pros* and *cons* advanced by Messrs. Fleming and Stanley. However, being only a visitor, probably my words may be deemed unfitting, and if so, I will simply claim the privilege of being allowed to feel disappointed on the occasion named.

In conclusion, that ever the operation of docking in this country will be *altogether* abandoned, I don't for a moment believe ; and with the countenance of unsoling, canine mutilation, and comb-cutting, it would be a most unfair legislation.

Tail-amputation should rest in the hands of a qualified and respectable veterinary surgeon, and a certificate that it had been so performed, and was *necessary*, should be compulsory. Yours faithfully,

8th April, 1884.

J. WOODROFFE HILL, F.R.C.V.S.

PROFESSIONAL ADVERTISING IN IRELAND.

SIR,—The heading of this letter is my apology for trespassing on your space ; such is the subject of a letter in your last issue from “An Irish Practitioner.” It is, unfortunately, too true, for not only is professional advertising carried on extensively in this country, but there is another system pursued which is equally derogatory to the *esprit de corps* of the profession.

I refer to answering of queries in the columns of a weekly paper. By this a man in Cork is informed by a F.R.C.V.S. in Dublin in which leg his horse is lame. My attention was directed (a short time ago) to what appeared pertinent to the subject in a sporting paper. I need scarcely tell your readers that ordinary members of the profession have not the advantage of being "gauged" or "sighted" for diagnosing at such long distances. In this particular instance, it would appear that it required all the ingenuity, ability, and spirit of prophesy, etc., found in our profession among its "bright particular stars"—Fellows of the College—to make a "popular" diagnosis.

To the "Irish Practitioner's" letter was appended an unauthenticated foot-note *re* advertising in Ireland. This foot-note states that "Irish Practitioner" sent two cuttings, one from a notoriously disloyal and disreputable Irish newspaper. Dr. Fleming, than whom there is no brighter in the field of physiological research, and who is acquainted with all the distinguished members of the profession, must have stood amazed when reading the foot-note I refer to.

Whether or not advertisements appeared in such papers as described in the unauthenticated foot-note, I cannot say; I have never seen such papers; and I am surprised that members of the profession (particularly Englishmen) would contribute to papers of such a diabolical type. I fancy, however, the writer of the note must have used a powerful microscope in looking for disloyalty, probably magnified to 10,000 diameters. One thing, however, I can say, and without any risk of being contradicted, that the system of professional advertising in Ireland, though it exists, was introduced by your own countrymen, and for the information of your readers, I may as well state that the distinguished Member and Fellow referred to in this letter is an Englishman.

I see by an advertisement, that a gentleman living in Derby contributes largely towards the soiling of Irish newspapers. This particular advertisement contains three characters worth notice. The first is a gentleman in hunting costume and riding; second is a gentleman in horsey costume, for he has got a bridle and saddle on his back. Not having the pleasure of knowing the gentleman who advertises in this artistic style, I regret being unable to inform your readers whether the man on horse or on foot is meant for the veterinary surgeon. The third character that attracted my attention is one for good *conduct*, etc., as received from London College, and to which are appended the names of distinguished teachers. If this display of art and genius be approved of by the members of the profession, I believe there are no class of its members more deserving of a prominent position than the artist's distinguished teachers, who contributed towards the completing of the picture.

In concluding (for the present) my remarks on professional advertising, I wish it to be distinctly understood by your readers that these remarks are made purely and simply in the interest of the profession, and not through prejudice towards any of its members.

All matters fairly considered, it may be difficult to blame distinguished members of the profession for airing their genius, if not their qualifications, particularly in a damp climate like ours.—I am, sir, faithfully yours,

Ballina, Ireland, *April 4th*.

P. WALSH.

AZOTÆMIA.

SIR,—Kindly allow me a little space in your next issue for a few remarks in reference to the paragraph on so-called "Azoturia," which appears at page

279 of your April number. Speaking therein of the strictures passed by Professor Axe and myself on the use of the term mentioned, Professor Williams makes a statement to the effect that while I condemn the term I do not even suggest a substitute for it. In the report of the paper recently read by me at Belfast, the following paragraph occurs: "In *Metritis* and *Nephritis*, I have not seen any benefit result from venesection, but in *Acute Uræmia* (wrongly called 'Azoturia') in the horse, and in *Parturient Eclampsia* in the cow, it is of great value when judiciously employed." In the succeeding paragraph I give my reasons—briefly, certainly—for objecting to the use of the term "Azoturia," and I here homologate what I then said.

The more I inquire into the nature of the disease in question, the stronger becomes my objection to the use of the term "Azoturia," as it does not indicate, or only to a limited extent, the pathology of the affection. In the report above alluded to, the following words in italics occur:—"and that is a *poisoned condition of the blood itself*."

I still maintain that in this affection, as in the closely-allied one of "Red Water" in cattle, the primary fault is in the blood, and that the condition of the urine is only an index of the condition of that fluid, the marked difference in the two maladies lying in the fact that in Red Water, *albumen* is always present in the urine in large quantities, while in "Azoturia" it is only occasionally present, and in small quantities.

In Red Water there is simply solution of the hæmatin, with extreme solubility and deterioration of the colloids, due, in my opinion, to the excess of alkaline phosphates in the blood, leading to an anæmic condition of the body, coupled with sero-sanguineous effusion into the tissues; whereas in "Azoturia," not only is there hæmatinuria, but, in addition, the urine is loaded with urea and biliary matters; and in the place of anæmia and sero-sanguineous effusion, we have marked hyperæmia and hæmorrhagic effusion into the tissues. In neither case do we get, unless the disease is prolonged, organic changes in the kidneys, and even when such are produced, they are due partly to over-work, and partly to the irritant action of the materials passing through them.

In both cases the nervous symptoms are produced by the altered condition of the blood, and in Azoturia they are, with slight modifications, identical in character with those seen in Acute Uræmia from other causes.

While I am not prepared to assert that the nervous phenomena are due entirely to excess of urea in the blood, I have no hesitation in stating that I believe they owe their origin to the presence of certain disturbing elements therein, be these elements urea, biliary acids, leucin, tyrosin, or what they may, and that these elements exert a disturbing influence not only on the nervous system, but on the blood itself, as shown by its diminished coagulability (in the latter stages of the disease), by the altered condition of its red cells, and by the cerebro-spinal congestions and effusions, and the systemic extravasations. I have no other object in view in alluding to this matter than the desire we should all feel, when it is possible so to do, to expunge from our vocabulary all synonyms which do not indicate the nature of the affection to which they are applied, and the application of which may mislead, not only as to the pathology, but also as to the treatment of a disease. In my opinion "Azotæmia"—a term I have used alternately with "Acute Uræmia" for years when lecturing on the malady in question—or Toxæmia would be preferable to "Azoturia."—I am your obedient servant,

Royal Veterinary College,
Edinburgh, April 21st.

THOMAS WALLEY.

PROFESSIONAL WANDERINGS.

SIR,—Taken in the sense that frequent change of locality prevents the accumulation of wealth, wanderers are generally apt illustrations “that a rolling stone gathers no moss ;” but as a counterpoise they gain knowledge unattainable by “stay-at-home folk,” who ploddingly pursue the even tenour of their way, content to exercise a judgment formed on a limited experience, by rule o’ thumb. Such a jog-trot system may conduce to longevity, unless the individual “rusts out,” but he cannot be said to have “acted well his part,” but rather have been a lay figure.

“ Even a dunce that has been sent to roam
Excels a dunce that has been kept at home.”

We propose to scan men and manners as they have occurred to us during the vicissitudes of a chequered professional career of upwards of a quarter of a century. It is truly said, “The study of mankind is man,” and, in the main, it is a perplexing one. It has been our lot to witness offences, not against social amenity alone as between gentlemen, but grave breaches of professional etiquette, *vulgo* dirty conduct ; and although no names will be mentioned, “the cap will fit.”

There is no royal road to learning—an old copy-book text, and a good one. This is sometimes doubted when we hear young members of the profession, of which they have been graduates at the outside five or six years, and who have passed without previous training of any kind, state with high-sounding assumption that they have nothing to learn, or to contradict, without reason or argument, the observations or opinions of those far more literate, and of many years’ extensive experience.

It has been our unfortunate lot to come in contact with several of this class. We take one as an illustration. Physically incapacitated for his employment, or thoroughly disliking it, whether clerk, journeyman grocer, ironmonger, or swaler, we know not, but something of the kind, his attention was turned to the profession as a varied occupation, affording occasional leisure, good remuneration, and a facility for obtaining fresh air. Without the least previous training, except, perhaps, some of his forebears might have been farmers, he entered college, and, from his account, passed a *most honourable* examination. Duly armed with his licence—*kill!* or cure?—not from diffidence, but to give himself time to select a locality for future operations, he takes a situation as an assistant, receiving as *honorarium* a few shillings per week, and the privilege of seeing practice, and this employed a small cob. In a few months, at the least busy part of the year, our hero obtained such an insight as to render any further knowledge unnecessary ; in fact, from his own mouth he is infinitely more competent than any of his compeers, most of whom are much his superior in ordinary education, and had been years in extensive practice, even prior to his adolescence.

The reiteration of this bounce goes down with some of the public ; they hear it so often and uncontradicted—for who likes to touch pitch, for fear of defilement?—that they begin to think it true. Is this one of the gentlemanly attributes of the present generation of the profession ?

It is not a matter of surprise that sensible stock-owners employ thorough practical *non*-qualified men in preference to these blatant, bouncy, useless individuals—and the last is used advisedly, knowing the egregious blunders made—but the less they know, and the greater the mistakes they make, the more they blow their trumpet, turning by impudent assurance those most patent to their own advantage

It is a nuisance to have anything to do with such folk, but needs must where the duty of the profession leads. A cow was said by one of them to be suffering from a portion of wire passing from the stomach to the heart. Our diagnosis was *Tuberculosis, and no wire*. The young gentleman had (we heard) previously had a cow under treatment, and when opened she had a piece of wire in the locality named—hence a kind of mental craze in that direction. In his examination of the animal, he illustrated the existence of the wire by violently pushing his thumb in the direction of the carotid, and when the cow drew back, exclaiming, in a tone of proof, “See how it hurts her!” The *post-mortem* examination exhibited the last stage of Tuberculosis, without the least trace of wire.

In another case, this able individual took a case of ours, and although one of Catarrhal Fever with a pneumonic complication, prior disease of the lungs being in existence, as was proved by a *post-mortem* examination, he diagnosed the case as Inflammation, a term used by him to many and varied disorders, and of sufficient ambiguity to allow him a loop-hole for escape. Although this animal was within a few minutes of its dissolution, he ordered a ball, the components of which were incompatible. Another case of this kind that he diagnosed as Inflammation, and was bled by him, succumbed in a few hours, filled with serum, all the indications of effusion being present before his assistance was sought—at least, so we are told on the best of authority. On one occasion we were called to examine a beast suffering from Contagious Pleuro-pneumonia, and an easy case to decide, but this young gentleman, whose patient it was, thought not, and told the owner that, supposing it to be so, we were wrong in the side affected. The *post-mortem* examination, however, showed the correctness of our diagnosis. Despite the law, this animal, although in contiguity to others, was kept alive for some time. It might be further said that a previous case had existed, and the regular attendant and inspector allowed the animal to linger until death put an end to her sufferings. It need not be wondered at that the disease spread and the herd had to be destroyed.

Although several of us in the vicinity claim the Royal Veterinary College as our *alma-mater*, this gentleman, we believe, has insinuated, if not directly stated, that he is the only one “with a superior qualification.”

A few more examples and we have done. A patient suffering from Catarrhal Fever, a concomitant of which is torpid bowels, had administered a full dose of physic with the natural consequence—death. In a conversation with a young *confrère*, who has since, by assiduity and practical investigation, become a most able man, we were told that the treatment he should adopt in Catarrh with typhoid symptoms, would be doses of physic as a sheet-anchor; the very thing to increase the nausea, and further promote the morbid condition of the mucous membranes. Yet he had received the bulk of his instruction from a learned professor—a very Gamaliel. An official, whom we know to have graduated with honours, astonished us by stating that he could diagnose “with certainty any case of Contagious Pleuro-pneumonia”; although by his own showing he had examined only some eight or ten cases during life and made one *post-mortem* examination.

Is it surprising that the profession is making such progress when we have in our ranks this ability? We reflect with shame (?) on our mental condition, for after an experience and study of many years, and an examination of hundreds of cases, we find a difficulty in always giving an immediate and certain opinion, and yet, on this point, we once were considered somewhat of an authority.

But your readers will ask, what are you driving at? At this, that the shams we have exposed are due to a want of practical training, one that cannot be obtained within the walls of a college. The learned teachers in these institu-

tions state that they prefer them without previous instruction. We ask why? Are they egotistical enough to suppose that they, and they only, possess the mysteries of the art, so are alone capable of imparting it? We trow not; it is rather that, the pupilage clause suspended, the classes *are larger*; but allow us to observe that by filling the ranks with botches they are degrading instead of raising us. The pleas they put forward of practical examinations *sound well on paper*, but are worthless in the byre or stable.

The profession is said now to be recruited from a more educated class; this is not a matter for surprise, considering the increased facilities for obtaining knowledge. Whether our advance has kept pace with it is a matter of opinion. That gentlemanly conduct or professional etiquette is better observed than in years past is more than doubtful. This is owing to the profession having become more especially "a bread-and-cheese" affair, many striving after the £ s. d., regardless of reputation, honour, or shabby behaviour, so long as it does not directly affect their pocket. Most are not manly enough to speak straight out, but

"They damn with faint praise, assent with civil leer,
And without sneering teach the rest to sneer,
Willing to wound, yet afraid to strike."

Or, is this line of conduct confined to the juniors alone? some few who profess higher and better things show it, and yet these are the most pertinent on "gentlemanly behaviour, etiquette, the progress of the profession," etc.; but it is all in the hearing of the ear.

No man gains fame, or reputation, or even succeeds in a business, for which he has no liking or aptitude; but apart from this a preliminary training is a success in making able practitioners. There are many who are now in large practice, formerly our pupils, and by our description of the routine will recognise us. From the first day, patients were visited by them, they were shown and explained the method of examination, the phenomena of disease, and the mode of treatment. In the yard, operations were performed before them, and in a few weeks they were *au fait* in the minor ones—bleeding, setoning, balling, etc. Every daily detail was noted and observed; and a process of recapitulatory grind followed at night, this being varied by readings and explanations in Anatomy, Physiology, and Materia Medica; compounding was also taught, but they were not kept to it, as has been urged has been the case in many instances, to the exclusion of more important subjects. That young men have been kept at this duty and taught little else, even in first-class establishments, we know. A pupil came to us that had been two years with an eminent member of the profession; the extent of his knowledge consisted in the composition and making of several kinds of balls, and one drench for cattle, which he thought to be a panacea for all the ills they were liable to. These cases are, however, exceptional, and many of us would consider ourselves greatly disgraced by such a system.

Pupilage certainly makes veterinary education more expensive, and lengthens the curriculum, and just at the present time no inducement is presented to enlarge either. But more anon.—Yours truly,

"A PERIPATETIC."

IMPOSTORS.

SIR,—When the Veterinary Surgeons Act came into force, I indulged a hope that flagrant impostors would be dealt with in such manner as to cause them to at least abate some of their pretensions; but, to my surprise,

no notice whatever is taken by the R.C.V.S. of one of the greatest pretenders, who has actually set up in business *since* the passing of the Act, and by advertisements in newspapers, and by a conspicuous *facia*, carries on, unmolested, a business in doctoring, stealing, and dealing in dogs.

To my knowledge three veterinary surgeons have written to the R.C.V.S. since January 1st, and I called your attention to the case last year; yet no notice is taken any more than if a Veterinary Act had never been conceived.

Is the Council so burdened with cases of the kind, it has no time for their consideration? or does it hesitate to use the powers given it, and (if I read the Act correctly) denied to those persons whom it most concerns?—Yours,
etc.,
A CANINE VETERINARY SURGEON.

CASES FOR PROSECUTION.

SIR,—I claim the liberty of asking through the medium of the VETERINARY JOURNAL what steps ought to be taken to put the penalties of the Veterinary Surgeons Act into operation. Having informed the Registrar of the Royal College of Veterinary Surgeons that Robert Caven, butcher, 80, High Street, Dalbeattie, has assumed the title of Veterinary Surgeon, practising and charging as such in direct violation of clauses 16 and 17 of Veterinary Surgeons Act, etc., and not being favoured either with an acknowledgment of my communication or any information on the subject, I take this method of bringing the facts before the profession in order that the matter may get its deserts, especially when the Council election is so near at hand. I am, yours truly,
AHITAB.

PARTURIENT APOPLEXY OR "MILK FEVER" IN CATTLE.

SIR,—I cannot understand why, when subjects of a scientific nature have to be discussed, veterinary surgeons shelter their identity behind the shield of a *nom-de-plume*. If your correspondent "Verum" chooses to "come out from his shell," I shall be pleased to take up the debatable points in his letter. Prior to the adoption of this reasonable demand, would it not be better for "Verum" to re-peruse my paper on Parturient Apoplexy? By so doing, he will, perhaps, save me the trouble of dispersing a few of the anomalies so patent in his letter.

"Verum's" reference to the dose of ginger and gentian is, as he justly remarks, a printer's error.—I remain, yours faithfully,
York, April 14th, 1884.
J. H. Cox,
Army Veterinary Department.

BUFFALO FLESH.

SIR,—Your correspondent, Mr. Phillips, writing from Barielly, states that the flesh of the buffalo is never consumed as food in India either by Europeans or natives. This may hold good in the part of the country from which he writes, but I can assure him that it is by no means the case in the Madras Presidency.

One of my duties, as Inspector of Cattle Diseases, is to inspect the municipal slaughter-houses in the city of Madras; and, to prove that both Euro-

peans and natives do largely consume the flesh of the buffalo, I may state that out of 1162 carcasses inspected within the last few months, no less than 348 were buffalo or 29·94 per cent.

From my experience, I am of opinion that there is far more buffalo meat consumed in India than is ordinarily supposed, and in many instances it looks far superior in quality to the rubbish which is often sold as "*prime beef*."—Yours truly,

St. Thomas's Mount,
Madras, *March 19th.*

JAMES MILLS, M.R.C.V.S., A.V.D.,
Inspector of Cattle Diseases.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from A. Leather, Liverpool; T. H. Lewis, Edinburgh; "A Peripatetic;" R. H. Dyer, Limerick; W. Cox, Newcastle-on-Tyne; R. W. Burke, A.V.D., Cawnpore; J. Woodroffe Hill, Wolverhampton; J. Mills, Madras; P. Walsh, Ballina; J. B. Wolstenholme, Manchester; W. Penhale, Barnstaple; Professor Walley, Edinburgh; "A Canine Veterinary Surgeon;" J. W. Hill, Wolverhampton; W. Broughton, Leeds; A. Broad, London; J. H. Cox, A.V.D.; W. O. Williams, Edinburgh; "Ahitab."

BOOKS AND PAMPHLETS: *Sir Joseph Fayrer*, On the Nature of Snake-Poison; Report of the Madras Agricultural Exhibition; *E. Klein*, Ein Beitrag zur Aetiologie der Jequirity-Ophthalmie; Report of Proceedings at a Conference on Contagious Pleuro-pneumonia; Report of the Madras Exhibition; Orders of the Madras Civil Veterinary Department; *Storia e Ordinamento Programma degl' Insegnamenti Instituti Scientifici*; *L. Griffini*, Sulla riproduzione parziale della Milza.

JOURNALS, ETC.: *Der Hufschmidt*; *Wochenschrift für Thierheilkunde und Viehzucht*; *Der Thierarzt*; *Lancet*; *Österreichische Vierteljahresschrift für Wissenschaftliche Veterinärkunde*; *British Medical Journal*; *Archives Vétérinaire*; *Journal de Médecine Vétérinaire et Zootechnie*; *Medical Times and Gazette*; *La Presse Vétérinaire*; *Revue Vétérinaire*; *Clinica Veterinaria*; *Live Stock Journal*; *Repertorium für Thierheilkunde*; *L'Echo Vétérinaire*; *American Live Stock Journal*; *American Veterinary Review*; *Annales de Médecine Vétérinaire*; *Edinburgh Medical Journal*; *Recueil de Médecine Vétérinaire*; *Medical Press and Circular*.

NEWSPAPERS: *Montreal Gazette*; *Kentish Observer*; *Stirling Observer*; *Scotsman*; *Glasgow Herald*; *Times*; *Standard*; *Cape Times*; *Leeds Mercury*.

All Communications, Books for Review, Advertisements, etc., should be addressed to the Publishers.

Morbid Specimens should be forwarded to the Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, though not necessarily for publication. Anonymous Letters and Articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors.

Communications for insertion in the next number should arrive on or before the 15th of the present month.

THE VETERINARY JOURNAL

AND

Annals of Comparative Pathology.

JUNE, 1884.

PARTURIENT APOPLEXY.

BY ROBT. GLASS, M.R.C.V.S., GLASGOW.

ALTHOUGH I cannot boast of a long or extensive practice in diseases of cattle, I have somehow been irresistibly drawn to the study of this malady in cows; and further, I have been tempted to write a theory on it.

Notwithstanding the numerous opinions we have received on this disease, I do not think that we have yet got the true theory, for the simple reason that the percentage of fatal cases is very large for a disease which we have little hope of being able to prove is due to a specific germ. With these few remarks, which may be looked upon in the light of an excuse for my presumption, I will give my opinion.

Theory.

Parturient Apoplexy is an apoplexy of some or all of the following structures, viz., the mammary gland and abdominal organs, due to a sudden loss of pressure on the vessels of these organs, which loss of pressure is caused by expulsion of the foetus, and want of contractile power on the part of the abdominal muscles. This congestion of these organs causes anæmia of the brain and spinal cord, and so produces a condition of syncope.

Having made this statement, it behoves me to bring forward some evidence to support it. Now it so happens that I think I

can, with a little argument, use up nearly all that we really know of this disease to support my theory. To simplify matters, I will take the facts as stated in the article in Fleming's "Obstetrics," and build up my argument on them. I also think that if my readers are favourably impressed with my theory, they will be still more so if they read the article, from which I will quote largely.

Argument.

Why did it become more prevalent with the improvement in the breeding of cattle? Artificial rearing and domestication increases the reproductive function, and with it the development of the mammary gland.

Why is the disease peculiar to cows? Man has converted this animal into a producer of milk, and this conversion has resulted in such an increased development of the mammary gland that it is questionable if this is not—with the exception of the lungs—the most vascular organ in the body.

What has the increased size, weight, and vascularity of the mammary gland to do with the disease? It has thrown more work on the abdominal muscles, and rendered the organ capable of containing a large quantity of blood.

Why is its invasion sudden, its course rapid, and characterised by loss of consciousness and paralysis, seldom by convulsions?

Because it is an apoplexy in every sense of the word, except that it is not due to extravasation of blood in the brain.

Why are recoveries sometimes as rapid as the attack was sudden? Dropping after calving (this is not used as a name for the disease, but as a result) increases the pressure on the mammary gland and abdominal organs, and so may remove the congestion, and restore the cerebro-spinal circulation; then the great controlling force of the body is nourished, and under its stimulus all becomes normal.

Why is there no fever present? It is not an inflammation of any organ, only a congestion of several organs. If fever is present, some organ has become the seat of inflammation.

"It may attack the cow as early as twelve or twenty-four hours after parturition, and generally follows an easy and rapid birth. It has, though rarely, manifested itself before parturition, and

also during the act. It is seldom that it appears after the third day." If it is due to the condition that I have pointed out, it is possible that it may attack the cow at any time after the uterus has begun to contract and lessen the pressure on the various organs. It is seldom seen after the third day, because the contraction and lessening of the volume of the uterus is less rapid after that time, and also because three days may be considered a fair test of the capability of the abdominal muscles to keep up the pressure on the abdominal organs. It is generally seen after an easy and rapid birth, because this is accompanied by rapid contraction of the uterus, and sudden removal of pressure on the vessels of the mammary gland and abdominal organs.

"The best-bred and the best milkers are those which are affected," because this is the class that man treats in the most artificial manner. This is the class that are housed, kept warm, fed on artificial and stimulating food; and man, by artificial means, increases the irritability, size, and development of the mammary gland.

This housing, tying-up, keeping warm, and rich feeding, while it increases the quality and quantity of the milk, produces a relaxed and toneless condition of most organs, also fatty infiltration of the muscles and the liver; this last condition is accompanied with a sluggish portal circulation, and so favours the congestion of the organs I have named as causing the disease.

"It very rarely occurs till after the third calving." In other words, up till this time nature has been subject to the wish of man, but now he has gone too far, and nature resents his interference with her works. By this time (much depending on the way the animal has been kept, fed, and milked) the mammary gland has become very vascular and heavy, the abdominal muscles have become toneless and infiltrated with fat, and unable to raise up and keep up the heavy gland and abdominal organs. The pressure on the vessels of these organs is lost. The result is, as I have already stated, congestion of some or all of these organs, anæmia of the brain and spinal cord, and the animal, as has been truly said, "bleeds to death in her own vessels" (Fleming's "Obstetrics," page 661), and, I would think, particularly those of the mammary and portal circulations.

“It has been said that cases are more frequent when there is a diminution of barometric pressure.” This is exactly what I would expect, for if the atmospheric pressure was sufficient to keep up the pressure on the abdominal vessels, there would be no congestion.

As a good instance of congestion from sudden loss of pressure, and one which I think resembles very much the one I am trying to prove, take that caused by the sudden removal of ascitic fluid. I remember Professor McCall, when describing the operation of paracentesis abdominalis on the dog, charging us to be very particular about using a bandage to support the abdominal organs, or syncope would be the result. How is this? I suppose it is due to abdominal congestion and consequent cerebro-spinal anæmia.

“Köhne and Banderscheren have boldly said that protracted and difficult labour is never followed by Parturient Apoplexy.” Though I would not like to be so positive, I consider that their assertions go a long way in proving my theory correct, because in those cases the removal of pressure is gradual.

“The more rapid the uterus contracts and resumes its normal size, so the more danger there is of Parturient Apoplexy, while the longer it remains relaxed, or the membranes are retained in it, so the chances are diminished. In the examination of the bodies of cows which have perished, the uterus is generally found very firmly contracted. Before the expulsion of the foetal membranes the disease is exceptionally rare.” All these facts go to prove my theory correct, for if the expulsion of the foetus is rapid, the contraction of the uterus must also be rapid, and so also is the removal of pressure; then the abdominal muscles are called upon to perform a feat for which, from their fatty, infiltrated, and toneless condition, they are unable.

“Constipation and gastric repletion have been held by one or two writers to be the cause, and others attribute it to over-feeding immediately before parturition.” These men are right so far. All these conditions help to impose upon the abdominal muscles a task for which they have not been in training.

Having thus briefly given you my opinion, I may be allowed to make a suggestion in the way of treatment.

Preventive Treatment.

Allow cows sufficient exercise to maintain the tone of the muscular system ; only solicit cows to yield a limited quantity of milk. At the third, or any calving where you expect it, have a broad truss hanging round the belly ; immediately after calving tighten up this truss by a series of straps and buckles, and so assist the abdominal muscles to keep up the pressure on the vessels of the abdominal organs. If the truss could be so constructed that it might press uniformly on the mammary gland, so much the better.

Curative Treatment.

Apply truss as before ; give stimulants, and employ subcutaneous injection of ergotine. Of course the milk should be drawn from the gland—when it will come—to prevent inflammation of that organ from distension.

General Remarks.

The stage of excitement is due to the limited quantity of blood going to the brain, and consequent alteration of the pressure on that organ ; the comatose condition corresponds to the slow death of the brain. These two symptoms will vary in duration, according to the rapidity and extent of the abdominal congestion.

The arrest of the secretion of milk is due to the congestion of the mammary gland and altered nerve-stimulus.

Amaurosis, a common symptom, because the eye is dying from want of nutrition and nerve-stimulus.

Paralysis : the brain and spinal cord are dying from want of blood.

This theory is somewhat analogous to those of Wermers and Francks. I hope I may have done something that will help in some way to clear up the mystery.

The most recent writer on this subject, J. H. Cox (VETERINARY JOURNAL, vol. xvii., page 336), lays great stress on thrombi as the cause of this disease. I do not think that they are the cause of the disease, but only a result, and that these are formed by the congestion, which is a common cause of Thrombosis.

This same writer claims to have had great success from the use of subcutaneous injections of ergotine, etc., etc., also the cold wet pack, covering it with several rugs and a mackintosh sheeting. How is this? Ergotine causes the blood-vessels, both arteries and veins, to contract (it is doubtful if any agent rivals it in this respect), and so may remove the congestion. The cold wet pack at first stimulates the muscles to contract, and then, after a time, stimulates the cutaneous circulation; both of these actions help to remove the congestion, and restore the circulation to its normal condition. To the two named remedies I would attribute his success.

PRACTICAL OBSERVATIONS ON TETANUS IN INDIA.

BY GERALD H. FENTON, VETERINARY SURGEON, 3RD LIGHT CAVALRY, BOWENPILLY, SECUNDERABAD.

THERE is no doubt in my mind that Tetanus is much more prevalent in India than at home, especially the idiopathic form of the disease; in fact, out of several cases observed in England I have not come across a single one not traceable to traumatic causes. It may be remarked also that in India the idiopathic cases seldom prove fatal. I had the opportunity, during three years' practice in Calcutta, of observing several cases of both varieties of the disease, as well under my own care as under that of Mr. Spooner Hart, M.R.C.V.S., who kindly showed me a case or two of idiopathic Tetanus, and other veterinary surgeons. Since my arrival at that part of Secunderabad called Bowenpilly, I have had under my care four cases belonging to the 3rd Cavalry, and one in a mule belonging to the Madras Transport Department. In contrast with this I may observe that I can find no record of Tetanus occurring among the horses of this regiment during the last ten years of its continuous stay at Saugor in the Central Provinces. It is important to determine why the disease thus seems frequent in two stations, and very rare, if ever seen, in a third. Saugor in average temperature is much lower than Secunderabad or Calcutta; and we may place it about midway between Calcutta and Secunderabad as concerns humidity. I

believe it has been placed on record that Tetanus is prevalent in the dry climate of Lower Egypt, but Mr. Hurford has recorded in the *Veterinarian* that when the 12th Lancers marched through the desert on their way from India to the Crimea, although all the horses were castrated and marched with their wounds open, no Tetanus supervened. Thus we have much to learn yet concerning the influence of climate in generation of the disease, but the evidence from my practice is that however much exposure to draughts and adverse winds may act as a cause, we have no evidence that the disease is more frequent in cold damp weather than in hot; indeed, if anything, the balance is in favour of the latter. Thus, out of the five Secunderabad cases, one *only* occurred during the rains, and the other four were during the hot weather. I may here give a short record of these and some others which have been brought to my notice in this country.

Case 1, F 601.—Dark dun northern gelding; rising nine years old; admitted 30th July, 1881, died 4th August, 1881.—Traumatic Tetanus, due to a bite from another horse on neck about three weeks ago, now healed; only at first an abrasion; the patient received a cathartic which did not act. It is noteworthy that this case lasted five days.

Case 2, A 482.—Brown gelding, northern, rising eleven years old; admitted 28th April, 1882, died 1st May, 1882.—The patient received a wound on inside of near arm from falling on stony ground some eighteen days ago; discharged cured. Fifteen days afterwards, there being no sign of the wound left, he went to duty and three days after that was admitted with marked Tetanus. Acid hydrocy. was inhaled several times a day. No physic given. Bowels relaxed at time of attack. Death ensued on third day.

Case 3, E 758.—Grey gelding Persian, aged six years off; was castrated by clamp and hot iron; progressed favourably with free discharge of healthy pus. Eight days after operation (17th February, 1883) incomplete Trismus set in and the castration wounds began to gape, with thin scanty discharge. The case was characterised by extreme nervousness of the patient, and rapid death forty-four hours after Trismus set in. No physic was given to the animal. The movements remained fairly free, and the

cartilago nictitans not protruded within three hours of time of death; a foul smell of the saliva was noted. The treatment adopted was Belladonnæ ext. in enema, and carbolic applications to the wounds. Autopsy showed: spermatic cords, internal part healthy, external in a condition to be anticipated nine days after castration; lungs congested; heart, left side filled with dark black blood, right with a yellow clot; soft, flabby, and large. Brain, vessels of membranes congested; plexus choroides of lateral ventricles the seat of gelatinous exudation.

Case 4, E 760.—Dark chestnut Persian gelding; four off; admitted 23rd April, died 24th April, 1883.—Had been castrated eleven days before attack. Ate grass in the morning, and half an hour after Tetanus of very acute character set in. The weather, having been hot, had now suddenly become cold with much wind and lightning. A powerful cathartic dose was given, although on this, the first day of the attack, much hard and dry fæces was expelled. The animal died in about thirty-six hours, having been treated with Muriate of Morphia in considerable quantity, injected subcutaneously (which produced no appreciable effect), and with Chloroform inhalations, which produced temporary (for about two hours) relaxation of the spasms.

Case 5 is so remarkable that I give it in full detail; but would ask my readers whether it is to be considered an idiopathic case or traumatic, for we have no evidence of a wound being the cause. On the 21st of April, 1883, I was requested by the D. A. C. General for Transport, H. S. Force, to visit a mule (mare), No. 113, at the Cattle Kharkhana of which I am in charge, supposed to be suffering from locked jaw. I went accordingly and found the usual symptoms well marked, but the jaws were not fixed and admitted of a physic ball being administered. On inquiring into the cause, I was astonished to hear that on the day previous, whilst watering, another mule mounted her and performed the act of copulation (and as the men say who saw it) completely, although the mare was not in season. The consequence was the vagina became very much swollen, and Tetanic symptoms showed themselves on the following day as before mentioned. The mule was placed in a large loose box, which was kept quite dark, and a cathartic given, aloes 3v., Ol. Croton.

Mxv. Two days later the bowels were only gently acted upon ; ordered soft diet which the animal ate ; visited the patient from time to time, and she always had great difficulty in moving about, nearly falling down, the muscles being generally fixed and rigid. At the end of May we examined her again and found that she moved with far greater ease ; the jaws were quite free, and on raising the head the cartilago nictitans only slightly protruded. Increased the rations and recommended more rest. In the middle of June the mule went to gentle exercise, which has been gradually increased, and was discharged as fit for duty. At the time of writing this paper I may add that the mule is doing her regular work ; no recurring symptoms have been exhibited.

The following cases I quote from memory.

Case 6.—A livery-stable waler horse in Calcutta was kicked on the ribs by another animal ; a slight abrasion resulted. Some eight days after the accident Tetanus set in, and death ensued on the tenth day after the injury. This was during the hot weather. Subcutaneous injections of strychnine, in enormous doses, produced no appreciable effect.

Case 7.—A bay waler carriage gelding, the property of the Viceroy (Lord Northbrook), was attacked with severe Congestion of the Lungs ; venesection was resorted to. An hour before death distinct Trismus set in ; died in two-and-a-half days after I was called in to treat him.

Case 8.—Grey waler cob, wry-necked as the result of an accident ; whenever the head was raised the cartilago nictitans protruded. This case remained *in statu quo*, the animal being “discharged relieved” and going to work. Although not one of Tetanus, this case presents noteworthy features, the cervical muscles being rigid on one side of the neck, and the cartilage protruded.

Case 9 (in practice of V.-S. Pallin, A.V.D.).—The patient, a polo pony, had been blistered for sprained fetlock, without cure ; was purged, and on 4th May, 1883, fired ; on 24th May Acute Tetanus set in when the firing wounds were cicatrising ; the symptoms came on suddenly. A large dose of aloes given on the tongue, and the fired surface washed and dressed with

belladonna ointment; died three days later. Very hot winds prevalent. Mr. Pallin, in his record of this case, remarks that during the same week some eight cases of Tetanus occurred within a radius of seven miles, and the disease therefore had somewhat of an epizootic form. I have seen, but not recorded, several cases of the idiopathic form, mostly among freshly-landed "walers" in Calcutta, and in them treatment, or rather non-interference, proved successful. With reference to Mr. Pallin's remarks, I may state that I have heard of a case which occurred in the Hyderabad Contingent about the same time, in which *tetanic fits came on periodically*. From the above cases we are led to conclude that hot weather is concerned in the development of the disease, but only as a predisposing cause, there being necessary some unusual or specific atmospheric condition, such as the hot winds noted by Mr. Pallin, the sudden change from heat to cold, and electrical phenomena mentioned by me in record of Case 4 (the remarks on which also apply to Case 3), or perhaps on special enzoötic influences. Thus, while Case 3 occurred, I heard of a pony in the lines near at hand also being affected, and in Chudderghaut several cases occurred simultaneously. It may be observed that Chudderghaut, Bowenpilly, and Bolarum are moister than Trimulgherry, and Tetanus is much more frequent in them. We may, therefore, agree with Professor Williams' view that Tetanus occurs oftenest in hot weather, and we may recall to our minds his observation that Idiopathic Tetanus may result from accumulation of sand in the bowels, which, perhaps, will account for so many cases of the idiopathic form occurring in India.

It is very evident that Traumatic Tetanus may be the result of *any* form of injury. Williams mentions a case of Tetanus caused by a blister, and the cases given show it from a slight wound of the neck, and from other injuries ranging up to those necessary in castration. It is interesting to note that the less acute cases resulted from the cicatrising wounds and the most severe from the castration wounds in their suppurating stage. The subjects of the latter, however, had been recently imported and marched to this station from Bombay. The cases seem to have been of all the ordinary service ages, ranging from four

years to twelve, except in the case of the mule, which was older.

Breed evidently also does not predispose to the disease, mules, ponies, persians, arabs, northerns, and walers being attacked by it.

SYMPTOMS: proved much more acute, and the nervous excitement much more severe in those cases which resulted from castration than in the others. They seem to prove fatal before the symptoms of the disease have had time to reach their full development; thus, in Case 3 the movements remained fairly free to within three hours of death, although the jaws were firmly locked, and acute paroxysms occurred at intervals; probably in these cases death resulted from the heart being involved to a fatal degree functionally in the nervous derangement—or in plain words, the animal is “scared to death” by slight noises and movements, however quiet you may try to keep everything around him. There is apparently no definite relation between the seat of injury and the muscles which are first involved in the tetanic spasm. Certainly in my experience the animal seldom lives to such an advanced stage of the disorder as to succumb at length only when the diaphragm becomes involved in the general spasm.

TREATMENT: *general*. I may claim to have experimented freely in the treatment of this affection, but in no case have I ignored the principle that quietude is to be secured by every possible means.

It will be observed that hydrocyanic and belladonna enemata muriate of morphia subcutaneous injections, strychnia internally, and large doses of physic, were each in turn tried, and each proved ineffectual; chloroform inhalations had a temporary effect. *Local* treatment in traumatic cases would at first sight seem rather a hopeful line of practice, for the wound is the cause, and probably some state of it the actual immediate producer of Tetanus, but neither carbolic applications nor belladonna ointment served to influence the progress of the disease. The results of my local treatment, therefore, have hitherto been *nil*. Certain surgical methods have recently been suggested; of these *nerve-stretching* seems to be worthy of a trial in veterinary practice when possible; but *neurotomy* has already to an extent been tried, and it is said that it has proved successful. There is an

old book entitled, "A Manual of Modern Farriery," by Thomas Brown, M.P.S., in which we read that he gives nicking and docking as common causes of Tetanus, and recommends in the former a deeper incision, and in the latter a fresh excision higher up, and states "by these means the spasms have, in many instances, been removed." But since he goes on to assure us that dashing cold or hot water against the affected animal has proved successful in a number of cases, we begin to have grave doubts as to whether he is not drawing on his imagination. However, neurotomy is not a very practicable method at the best. Suppose an attack attributable to what we read is a very frequent cause (although I have never seen such a case), puncture of the foot; here the main nerves of sensation could be divided, but then there are sympathetic fibres arranged in networks about the outer coat of the arteries; and the sympathetic system (for all we know) may be quite as much the line of communication as the cerebro-spinal! We can add nothing to the generally-accepted view, that nature must practically be left to her unaided efforts in Tetanus, except that experiments made by me confirm the view that the paroxysms of Tetanus are controlled by chloroform, and the question naturally arises whether, if we could keep a tetanic patient under anæsthetic influence for a prolonged period, the Tetanus would not, of its own accord, pass away without fatally exhausting the patient, as it usually does. In the absence of paroxysms, nutritive and cathartic treatment might be adopted with some chance of success. It must, to the veterinary surgeon, be a source of astonishment to read how many cases of Traumatic Tetanus are cured, especially by non-veterinary writers. Colonel Ryves' friend, Colonel Brown, is a firm believer in homœopathic medicine, which really means leaving cases to nature, but his "Nux Vomica by Olfaction" would somewhat interfere with the necessary quietude! In fact, the treatment recommended in all but our standard professional works errs on the side of fussiness—*the only chance of cure is to keep the patient quiet*. Many of the so-called cures of Tetanus were not cases of Tetanus at all, for there are several diseases which the amateur practitioner might mistake for true Tetanus.

True Nature of Tetanus.—I have now to ask, What is the pathology of this disorder? *I do not call it a disease, but a symptom of disease*, because tetanic spasm may be due to many pathological states. I consider that such terms as Tetanus, Cough, Colic, are simply used by us as a convenient description of cases of which we have not thoroughly fathomed the nature. Thus, Colic is abdominal pain without inflammation, which may be due to almost any non-inflammatory derangement of abdominal viscera. Cough is a physiological process, or else an indication of some disease or other of throat, lungs, pleura, stomach, womb, or almost any other organ; and Tetanus is a state of spasm which may be due to strychnia poisoning, to electric stimulation of a nerve, to inflammation of the spinal cord, or to some disease of which the exact nature is generally obscure. When we cannot trace tetanic symptoms to their true pathological state, we call the case one of "Tetanus," just as we speak roughly of "Colic" and "Cough." It will be seen that nothing particular was detectable on ordinary *post-mortem* examination in our cases. The blood is dark and black, and the saliva foetid. This might indicate that Tetanus is a specific blood disease, but German experimenters have transfused the blood of Tetanus patients to sound animals, and the disease was not thereby conveyed. In these days of bacterian craze, we might expect to hear of an organism in Tetanus, but none has yet been described, and the arguments at present, notably the transfusion results, are much opposed to its being due to germs. The wounds in the castration cases assumed unhealthy action with the commencement of Tetanus, but we are not in a position to draw any conclusion from this fact. Altogether, practical observation seems to confirm the view that in traumatic cases, *the theory of entanglement of the ultimate nerve-fibres is the most feasible which has been suggested*, although it hardly seems sufficient to account for the occurrence of Tetanus where no wound is present. Under these circumstances I look upon it as incumbent on any member of the veterinary profession who has known a case of Tetanus due to docking cured by re-docking, or any in which amputation or neurotomy has proved successful, to put it on record for the benefit of science.

Secunderabad, 26th March, 1884.

As a remarkable case of Traumatic Tetanus occurred here the other day, the victim being one of forty-seven remounts which have recently been castrated, I thought it would be interesting to many to record it, as I have asked in the above paper if, were we to keep a tetanic patient under anæsthetic influence for a prolonged period, would not Tetanus of its own accord pass away? Now this is a subject which needs further investigation, and we are, I think, from the following case, not only justified, but bound to make further experiments. I may mention that this is the first time in my practice that I have administered a medicine "per trachea," and the results were simply remarkable.

Case 70, D 812.—March 19th, 1884.—Tetanus (Traumatic). The patient was castrated on the 8th March, and progressed favourably up till the noon of the 19th, when he presented the following symptoms:—Tail unusually erected, and rigidity of the neck-muscles, accompanied with fever; pulse fifty and small. Give Spts. æth. nit. ʒi. , Magnes. sulp. ʒviij. , Infus. chiretta Oj. Gave bran-mash at night, which he ate. It is noteworthy that on the evening of the 18th inst. that there was a considerable amount of lightning and clouds, and a cold wind blew all night, with a few drops of rain.

20th.—Symptoms more marked, and jaws partially closed; give Aloes ʒi. , Cannab. Indi. ʒij. by means of a stick. As all treatment I have hitherto had recourse to in cases of Tetanus has proved unsuccessful, resolved to try the injection, per trachæa, of Ext. belladon. ʒiv. in solution. The patient in a very few minutes became comatose, and the eyes had quite a green appearance, the pupils of which were, of course, dilated; there was stertorous breathing. The patient remained perfectly quiet up till night, when ʒij. of the extract was again injected into the trachea, with the same marked success.

21st.—Cathartic acting well, symptoms more marked in the rigidity of the muscles generally, making the movements very difficult, and jaws almost completely locked. It is very remarkable that up to now there have been no paroxysms or sweating—which, of course, I attribute to the belladonna. Give

linseed-tea, eggs and brandy, with one pound of ice by means of Reid's enema pipe, pumped into the mouth. He swallowed all this, and had no paroxysm; repeat the injection per trachea (ʒij. of the extract), and inject per rectum three quarts of linseed-tea with Extract hyoscy. ʒij. At night, patient no worse, and very quiet; repeat the morning's treatment and nourishment.

22nd.—The patient is very quiet, shows no pain; repeat treatment. The animal remained very easy up till evening, when, after being fed with Reid's pipe, and after being injected per rectum, the first paroxysm I have noticed came on, with profuse sweating; he fell down and died in about three-quarters of an hour.

Post-mortem examination, made twelve hours after death, revealed internal organs healthy; spermatic cord internally healthy, externally in a condition to be expected fifteen days after castration.

22nd.—Discharged. Died.

ERGOTISM IN THE UNITED STATES.

BY C. H. SWEETAPPLE, VETERINARY SURGEON, SECRETARY
AND REGISTRAR, ONTARIO VETERINARY ASSOCIATION.

HAVING returned from investigating the cattle disease in the Western States which has caused such alarm there during the past few months, and meeting Prof. A. Smith of the Ontario Veterinary College, Toronto, he requested me to forward the result of my investigations to the VETERINARY JOURNAL, thinking it might prove interesting.

I arrived in Kirksville, Missouri, on the night of March 24th. This is a thriving town, west of the Mississippi River, "the father of waters," and about seventy miles north-west of Quincy, Southern Illinois, where I was informed that the disease had appeared in quite as virulent a form as in any part of the West. The next morning early I started on my investigations. About six miles from Kirksville I came to Mr. Bragg's farm. He owned about thirty-five head of cattle—had had four deaths. Ten animals were then in various stages of the disease, which exhibits itself in the following form: some of them with one or

both legs off a little below the hocks, some off at the fetlock joints, some with the feet off, some with one leg off and the other dangling, and some with the legs, one or both still on, but with a clear mark of division between the living and dead tissues. This is a general description of the appearances in all the herds I visited. On this farm I saw also three more fresh cases, with the hind legs without circulation or sensation; from the hocks downwards, the legs of these also appeared completely dead. The animal temperature of the fresh cases was about 103° , that of the old cases would range about 102° . The *hind* legs were usually affected, not often the fore legs. The stumps in some cases were healing, and the animals ruminating, but they were in a very low, weak state. In a few cases I found slight sores in the mouth, but nothing whatever to indicate Foot-and-mouth Disease (*Epizootic Aphtha*), which it had been pronounced by some. It was clearly a dry gangrene of the extremities, and on a careful examination of the food, I found *ergot* in very large quantities in the hay—principally in a small, fine grass called “red-top.” A pocket glass of low magnifying power revealed it in great plenty—in fact, I could scarcely find a head of this grass that was not full of it.

The next herd I visited I found much the same state of affairs, and many affected. One heifer had just aborted, and there had been four other abortions.

Another herd of eighty-six cattle was visited; fifty-five of these were affected more or less severely with the dry gangrene, and there had been some abortions.

I visited all the diseased herds in the neighbourhood, and found the same evidences of disease, with greater or less severity, and in all cases ergot was easily found in the hay, the severity of the symptoms and the number of cases bearing a direct proportion to the quantity of ergot in the hay. It was clearly *Gangrenous Ergotism*. Of course, seeing this it was not necessary to prove the well-known medical fact that ergot produces gangrene of the extremities, also abortion; but to satisfy parties in the neighbourhood, I examined the food of healthy herds, of which there were plenty. I could find no ergot in their hay, which was usually composed principally of

timothy and clover. Last year being an unusually wet, cold season there, would no doubt account for such a large production of ergot.

From the symptoms described, I feel confident that the recent different outbreaks of disease in this and neighbouring states are all of a similar character, and have been due to a similar cause.

INVERSION OF THE BLADDER, WITH CYSTIC HERNIA OF THE INTESTINES IN A MARE DURING PARTURITION — DEFORMITY OF FŒTUS.

BY J. WOODROFFE HILL, F.R.C.V.S., WOLVERHAMPTON.

AT 5.30 a.m. on the 6th May I received a message to attend a four-year-old cart-mare unable to foal, at the Wolverhampton Corporation Sewage Farm. On my arrival I found the animal in hard labour, the two fore feet of the foal protruding from the vulva, and a hind foot in the vagina, but the head out of reach. I diagnosed the case as one of anterior presentation, with deviation of the near hind leg, and lateral deviation of the head towards the shoulder. Having secured the fore feet with cords, an attempt was made to push the foal back again into the womb, but owing to the rigid and fixed position of the hind limb, this could not be accomplished. A crutch was then extemporised, and whilst the manager was examining the position of the foal, the bladder of the mare was suddenly inverted, and became rapidly distended and congested.

Owing to the nature of the case, and the value of the mare, I suggested the advisability of a second opinion, naming Mr. E. Meek, of Walsall, as an experienced obstetrict, and this gentleman was at once telegraphed for. In the meantime chloral hydrate was administered to allay the straining, which was very violent, and keep the patient quiet.

On arriving again at the farm, we found the entire bladder protruded, of a deep crimson hue, enormously distended and tense. To return the viscus in such a condition being impossible, as also to attempt delivery in the presence of such an obstruc-

tion, it was decided to tap it on the upper surface near to the neck. Nothing passing through the small canula, Mr. Meek used a lance, when a quantity of fluid faecal matter spurted out. On passing the finger through the incision, the inverted bladder was found to contain intestine. With such a complication, and a running-down pulse, we considered the case hopeless, and for the double purpose of avoiding a prolongation of suffering, and the off chance of saving the foal, the mare was shot, and the Cæsarian section immediately made. The foal, however, was dead, and found to have occupied the position I in the first instance diagnosed.

The head was lying on the off shoulder, the muscles of the neck on that side being contracted, the upper jaw and nasal bones being curved in the same direction, or, as Dr. Fleming in his "Obstetrics" observes, "Moulded, so to speak, to the parts on which they had rested during intra-uterine existence."

The hock of the limb which, through its rigidity, had given us so much trouble, was found to be inflexible, and to only yield in a slight degree to reverse action. It was considerably enlarged in the seat of Spavin, presenting precisely the same appearance, and when manipulated the same feel as in an ordinary badly-spavined hock (I have not yet made a dissection of it). The off hip joint was also deformed and enlarged (not yet investigated).

The inversion was then examined, and the bladder found to contain several feet of the mare's intestines, which had evidently been forced into such an unusual position by the foot of the foal, whose movements were strong during the early part of labour—an opinion expressed by Mr. Meek upon his arrival.

I have recorded the case as possessing some interest, and which my *confrère* and self believe to be unique in equine obstetrics.

COMPARATIVE SPHYGMOGRAPHY.

BY D. ASTLEY AND J. BRODIE GRESSWELL, LOUTH,
LINCOLNSHIRE.

THERE are many difficulties which beset the application of the ordinary sphygmograph to animals—by ordinary sphygmographs we mean the direct, Marey's and Dudgeon's. Most of these

difficulties, however, are more or less easily surmounted, but some are apparently not so.

Among the latter we would include the case of animals of a restless, irritable temperament; moreover, the application of Marey's direct instrument is in most cases quite out of the question.

Of the direct instruments at present in use, we prefer Dudgeon's (made by Messrs. Arnold and Sons), but we feel that an instrument should be constructed specially adapted for application to animals, and indeed modifiable for application to different animals—modifiable especially in the shape and size of the button on the spring, and in the width between the bars which flank this button on either side.

And in making the instrument, we should bear in mind the sudden and apparently unprovoked movements of animals.

We think, however, that the so-called indirect instrument is the most easily applied of the sphygmographs at present in use, and that it yields the most trustworthy records.

Human sphygmograms are almost invariably taken from the radial artery; we prefer to take the sphygmogram of the ox from the facial or external maxillary artery, and that of the horse from the temporal artery.

Sphygmograms of animals will be useful, we think, when they serve as faithful records of the state of the pulse, and they will be the more faithful—we mean the more interpretable—if they be taken from those arteries with whose pulsations we are most familiar.

True, some prefer to gauge the pulse at the fetlock in the beast and at the fore-arm in the horse, but we believe that the majority direct their attention to the pulsations of the ext. maxillary in the beast, and those of the submaxillary of the horse (so that, taking the sphygmogram of the horse at the temporal, we take it at a point somewhat more distant from the heart than we would take the pulse).

In interpreting the direct sphygmograms of animals we are apt, perhaps, to be somewhat misled by the interpretation of the sphygmograms of man, but we must bear in mind several points in this relation.

Of these we would make mention of the following :—

(1) Animals supply an additional factor, viz., hair. We find it advisable, where feasible, to cut the hair close.

(2) The skin of animals is thicker than that of man, and when the sphygmogram is taken by the direct sphygmograph, a large bulk of skin is included within the bars which stand on either side of the button of the spring.

(3) The skin of animals is much looser, so that the sphygmogram is possibly further modified by even a duplicature of skin.

(4) The sphygmograms of man are almost invariably taken from the radial, while those of the horse we find most easily obtained from the temporal, and those of the ox from the external maxillary.

Hence, in these cases, *i.e.*, in animals, the tracing is taken nearer to the centre of the circulation than it is in the case of man.

As an illustration of the caution needed in applying the interpretation of the sphygmograms of man to those of animals, we would mention the case of dicrotism in animals, which (though it were very sensible to the finger, and though it apparently would, in the case of man, give an almost hyperdicrotous tracing) gives a tracing whose aortic notch scarcely descends to the base line; indeed, the tracings of an ox in a state of extreme emaciation, and close upon the point of death, which we took only a short time ago, though really indicative of extreme prostration in the animal, might be read, were it man's, as one of a considerable amount of tone.

We would conclude with an expression of a wish that sphygmography of animals were more generally practised, in order that those who have such ample opportunities might render a good service in the cause of physiological research, of pathological research, and of science.

Perhaps the following observations may merit insertion in the Journal.

Many veterinarians, I believe, have used, and do use, *Liquor carbonis detergens*.

I find a product equal in usefulness to this excellent liquor

may be obtained by mixing one pint of gas-tar, one pound of Sapo. moll. ; three pints of Spirit. meth. ; and digest for three or four weeks, occasionally shaking the mixture, and finally filtering.

A solution of crude carbolic acid is also of great importance to us.

I find that this so-called acid is easily dissolved by adding one part of Sapo. moll. to two or three of the acid, and the resulting fluid is readily miscible with water in any proportion.

Lastly a few words with regard to the therapeutic use of Sodæ sulpho-carbol. I have found this sulpho-carbolate salt of sodium extremely useful in Influenza ; in two cases, after the administration of this drug, the pulse fell from 105 and 104·5 to 102° and 101° respectively.

I have also found it useful as an anti-ferment in Bovine Tympanitis. My brother, Dr. D. Astley Gresswell, late House Physician to St. Bartholomew's, informs me that seventy cases of Enteric Fever in that hospital, under the care of Dr. Southey, from April, 1882, to April, 1883, were all treated with sulpho-carbolate of sodium, and that only one of these patients died, and he within forty-eight hours of admission, of Peritonitis, which was present at the time of admission.

OSTEO-POROSIS AND SPLENIC ABSCESS.

BY C. RUTHERFORD, M.R.C.V.S., 6TH DRAGOONS, NATAL,
SOUTH AFRICA.

THE two following cases, I trust, will be of sufficient interest to merit insertion in your valuable Journal.

OSTEO-POROSIS.

Patient.—An English-bred brown gelding, eight years old ; a charger. In October, 1882, this horse suffered and recovered from an attack of Horse Sickness (Anthrax), but though reduced considerably in condition, he so rapidly made flesh as to be fit for work by the middle of November. Towards the end of January, 1883, he became lame in both fore-feet from Laminitis—not of a very acute but decidedly progressive nature for a time. By February 9th the lameness had so much decreased

that light rocking-shoes with leather soles were applied, but in spite of good nursing, careful dieting, etc., he became weak and debilitated, his coat unthrifty and scurfy; the mucous membranes were of a yellowish-red colour, the conjunctiva "occasionally" showing dark mulberry-coloured spots; respiration normal; pulse but slightly altered; the appetite was good; the urine sometimes high-coloured; bowels regular, the result of careful dieting. Both rami of the inferior maxilla were swollen, *i.e.*, the osseous substance beneath and around the first, second, and third molars (of each side) was enlarged and accompanied by infiltration of serum beneath the skin adjacent.

Within the next fortnight these enlargements had so much increased as to interfere with mastication to a considerable extent; they were felt to be of a bow-shape, both on the facial and sub-maxillary aspects, hard and painful to the touch; the first, second, and third molars on each side of the lower jaw were raised above their fellows, the incisors of the lower jaw could not touch those of the upper on attempting to close the mouth; the teeth were apparently healthy. On February 27th he was slightly lame on the near hind-leg; two days afterwards he could scarcely bear any weight on the limb, which was slightly swollen and tender from the hock to the fetlock, but most painful on the lower anterior third of the metatarsus. There was not the faintest sign of a bruise of any sort to be detected. By the 13th March the leg had gradually "fined down," he could put weight on it fairly well, and could walk about slowly to graze. At the end of the month the lameness had much improved—that of the fore-feet especially so; the near hind was almost natural in size, all that remained of the swelling being a bow-shaped exostosis, two inches long, on the lower anterior third of the cannon bone; but he was still in very poor condition.

During the following month he gradually improved in every way. Mastication was now a much easier matter, as the jaws could be closely approximated, owing to the six molar teeth having sunk to their natural position; the swellings of the rami were not painful, though still large and hard; the œdema had disappeared from the face and jaw; he could trot about slowly, and, though thin, his coat looked well.

During May and June he improved very much in condition, and was able to trot out fairly well ; there was no lameness behind, and he only went a little short in front ; but towards the end of July a change for the worse set in ; after exercise, he was stiff, and inclined to lie down a great deal ; his hocks and knees became swollen, hot, and tender, and his gait very stilty. On August 1st he was sold, and unfortunately I have lost sight of him.

Treatment.—Locally, for the Laminitis—at the outset, removal of shoes, lowering of heels, poultices, cold water bandages, etc. Medicinally—chiefly the administration of salines, iron tonics, hypo-sulphite of soda and salicylic acid. Whilst the near hind limb was so painful, hot fomentations, followed by dry bandages, were applied ; and at the same time slinging was attempted, but owing to his becoming very violent it had to be abandoned. To the swollen jaws compound turpentine liniment was applied, followed by iodine ointment, and subsequently, on 1st April, by setons, left in for ten days, dressed with Ung. hdg. iod., 1 to 20. His food for the first three months consisted entirely of soft materials, such as mealie meal, bran, pulped roots, green oat-hay, and freshly-cut grass ; afterwards of hard feeding—oats, mealies, etc.

I always thought Osteo-porosis essentially a disease of youth, occurring at the age of four or five years in the horse ; hence it would be hazardous on my part to venture any comment upon its cause in this case, although the following points struck me to be worth noticing :—firstly, the quiescent period of nearly three months (May, June, and July), after which it suddenly re-appeared, not in an already affected spot, but in the hocks and knees ; secondly, that no alteration in the shape of the fore feet followed the lameness in front ; thirdly, he had always been well looked after, fed—same as the troop horses—on mealies, oat-hay, and grass ; had always been in good condition previously, and had never formerly suffered from any ossific disease, excepting a small splint.

No other case has occurred, to my knowledge, amongst our horses, ponies, or troopers out here ; nor, so far as I can learn, has the disease been noticed in this country. I have frequently

wondered if the primary lameness, *i.e.*, what appeared to be to all outward appearance, Laminitis, was due to the same cause operating upon the os pedis as that producing the enlarged rami, and the subsequent enlargement of the hocks and knees.

SPLENIC ABSCESS.

Patient was a colonial horse, ten years old, and had been in the pink of condition for the last two years.

Twice between the 29th January and 4th February last he suffered from acute indigestion, the symptoms of which lasted only about two hours on each occasion—having yielded to the administration of Ext. Belladonnae, Ammon. carb. a.a. ʒj, Aloes B. ʒij, and the usual simple measures adopted in camp to obtain comfort and warmth.

On February 5th, though feeding well, he was somewhat dull and depressed, and occasionally gave a gentle kick at the abdomen; his respirations were normal, fæces soft, legs warm, urine slightly high-coloured, tongue slightly furred, the conjunctival membrane was slightly injected and spotted, the pulse 52 per minute and firm. During the next six days his appetite rapidly failed—he had to be coaxed to partake of a little mealie meal and cut grass—his thirst became most inordinate, and loss of condition was most marked. He stood nearly the whole time with his back arched upwards and his head down towards his knees: urine was voided in large quantities, dark and offensive in odour; the expression of the face became anxious and the eyes sunken; respirations were increased, the mucous membranes became yellow and the pulse gradually increased in frequency and weakness. Of fæces, what little passed was light in colour. For the next ten days that he lived there was a most marked disinclination to move or lie down, accompanied by extreme depression, increasing debility and want of appetite.

The head was still kept persistently low, parallel with the limbs, and the neck was arched forwards—the superior muscles of which became very stiff, but not tetanic. His thirst remained to the last insatiable, thus giving me a chance of keeping up his strength by means of gruel and stimulants; the pulse became thready and weaker daily, the mouth foetid and clammy,

tongue furred, the conjunctival mucous membrane purple in colour, latterly almost black, and extremities deathly cold. Œdema of the eyelids and lips, followed by swelling of the head and tongue, set in—due, no doubt, to the dependent position of the head—and subsequently blood-stained tears dropped from the almost closed-up eyes, and a thin serous discharge came from the nostrils and mouth. He died in a comatose state on the 22nd of February.

Post-mortem examination revealed the following:—Extreme emaciation and pallor of tissues; incision of swelling of head showed effusion of serum and enlargement of submaxillary lymphatic glands. The stomach contained about half a pound of grass, some mealie meal, and about a gallon of fluid of a foetid odour; on its greater curvature was a high-coloured thickening, the centre of which presented a small orifice less than half an inch in diameter with raised florid edge, and protruding through this opening were some shreds of foetid tissue.

The Spleen:—Substance pale, hard, and atrophied. The lower third was adherent to the stomach and bulged considerably, and section of this part revealed a large sacculated abscess, a diverticulum of which communicated with the fistulous opening in the stomach above mentioned. In size it was five by two and a half inches, and its walls were composed of strong fibrous tissue, hyperæmic in colour, enclosing nearly half a pint of foetid, caseous pus, and a stringy mass of fibrous tissue about two and a half by one inch long. The frayed extremity of the latter protruded through the fistula into the stomach.

The duodenum was slightly congested.

The liver, smaller than usual, was covered with small grey spots. On section the knife grated, and the substance was hard and fibrous.

The left kidney was extensively atrophied, pale and hard; whereas the right one was enlarged, soft, and vascular.

Heart:—In both right and left cavities were large *ante-mortem* clots, comparatively firm and tenacious, extending for some distance into the aortæ and pulmonary arteries. There was extensive ecchymosis on the endocardium, most marked on the ventricular surface of the mitral and tricuspid valves.

OBSERVATIONS ON SOUNDNESS.

BY R. H. DYER, M.R.C.V.S., LIMERICK.

THE duties of an examiner are of great importance in several ways, inasmuch as he is expected to be thoroughly acquainted with the natural form of the horse and its many diseases, which are found both externally and internally; and he should know something of "action," because some of the structures may be so deformed that the mechanism of certain joints may not act harmoniously, and more particularly when diseased, as is frequently seen in the movements of the hock-joint. Examiners should consider themselves in the same position as judges when presiding in a court to try cases. They ought to act without bias or prejudice, as they are employed to test the soundness of horses, and they are bound to perform their duties in such a manner that both seller and buyer shall be satisfied. It sometimes happens that an examiner possesses a feeling of dislike to a seller, and does his utmost to reject an animal, or he may have a desire to befriend a purchaser, especially if he is a horse-dealer. When such things are effected, it does not redound to the credit of a veterinary surgeon. I have known many instances which have occurred during my experience, to bring discredit upon the profession, simply from the fact that the *principles* of the examiners are defective.

Errors in judgment are not uncommon, but *honesty* of purpose ought to be the leading principle of action, and I would take this opportunity of reminding young practitioners that their first aim should be, not only to establish a name for *competency*, but that they should study to prove that their *intentions* are *honourable*, and that they will not pander to the wishes of men interested in cases.

It may serve a good purpose if I relate two or three cases which have fallen under my notice. It is generally known that most horses sold in Ireland are examined at the time of purchase, as warranties are not customary, and many animals are taken to fairs, sold, and examined there, and veterinary surgeons are always to be found in attendance to perform those duties.

Whether examinations can be conducted with the same precision as when performed at an establishment, I will pass by for the present. The first case I shall relate is that of a horse which belonged to a client of mine. The animal was sent to a fair to be sold. The owner sold him to a dealer for a large sum of money, and he was examined and rejected. The veterinary surgeon was asked why he rejected the horse? He was told that a bony enlargement could be seen upon one of the legs, and that it felt hot! The horse was brought to me, and the owner stated what has been written. I examined the part, and could not detect abnormal heat, nor was the horse lame, nor the part tender upon pressure. The horse was taken home, and brought to the next fair, about six months after. He was again sold, and the same veterinary surgeon had to examine him. The horse passed sound! The owner inquired why he rejected the horse upon a former occasion. The veterinary surgeon asked if he had previously inspected him. He was told that he did, and pointed to the exostosis as the cause. The veterinary surgeon said that was of no consequence! This caused a very bad impression upon the mind of the owner of the horse.

Another case was as follows:—A man sold a five-year-old horse to another, and it was examined by a veterinary surgeon at his establishment, who pronounced the animal to be four years only; consequently the purchase was not concluded. The seller felt confident that his horse was as old as described, and he submitted him to a practitioner for examination. He certified for five years. This did not satisfy the first man. The owner then obtained from the breeder the date of foaling, and took it to the veterinary surgeon. This met with the same result, viz., *unbelief*. The first examiner suggested that two other members of the profession should give their opinions; these gentlemen were non-resident—they certified for five years. This failed to satisfy. The seller then demanded his costs, which the veterinary surgeon promised to pay him. He refused. A civil bill was the next document handed to the veterinary surgeon who had declared for four years old, and the case was heard in court. The plaintiff was examined and made out his claim. Defendant was also examined, and his *fencing* and *evasive answering* so

disturbed the judge, that a decree was granted for the sum claimed, and he was told to go about his business. It need not be stated that this was an unfortunate piece of work, because it not only caused the veterinary surgeon to be suspected of unfair play, but he pitted his own opinion against two men of much experience. Had the veterinary surgeon been properly advised he would have quietly paid the costs, and it would not have gone before the public. When a horse is brought to an establishment for examination, he should be placed in a stall and tied so loosely that he can reach the manger. This is done for the purpose of watching as to crib-biting, or wind-sucking, or weaving propensities. Not that a veterinary surgeon should be held responsible for the two former, as it is known that some horses will remain for hours in a strange stable without crib-biting. The veterinary surgeon should, if possible, have charge of the horse for two hours after any length of journey, and for one hour under any circumstances; but at busy times, such as upon fair-days, no seller will consent to lose so much time, so that we must do the best we can. When the animal is at rest, and left undisturbed, he will feel at home, and if any disease is present in the legs or feet, or in the respiratory organs, it may be observed by the examiner.

The horse is then brought to the stable door, and the eyes and mouth inspected. The sides of the wall should be blackened opposite the head, so that a proper examination of the eyes may take place. The first thing to note is the size and shape of the globe, as well as the appendages. A front view and a lateral one should be taken, and one's black hat will be found to aid in the examination, if properly managed. The brighter the day the more backward must the horse stand at the door, and *vice-versa*. The nostrils must be strictly scanned. The mouth is then looked at *both* sides.

The horse is now led into the yard, and the examination proceeded with. At this stage it is advisable to allow the horse to stand perfectly still, and look at him as a whole, and observe how he stands; whether his shoulders, knees, and feet are alike, then walk round him and take a view from behind to ascertain if the hips are even, the hocks alike, and so forth.

The first act *with some men* is to make the horse cough, which is a most objectionable practice, unless the horse coughs before he is touched. The head is looked at and felt by the hand, and every portion of the neck on the left side ; the wither, shoulder, elbow, knee, and all parts down to the foot should be carefully handled. The foot being held up so as to touch the elbow will give an idea if all is right in the carpal joint. The body, loins, hip, hock, etc., will, of course, be felt and carefully examined, not forgetting to ascertain if the soles and frog are free from disease. The object of making this search is to learn if there is any swelling about the face, enlargement at seat of Poll-Evil, parotid and submaxillary glands. Horses are seldom bled now-a-days, so that impervious vein is not likely to be seen. The withers sometimes show unmistakable sign of injury. The point of the shoulder—over which the skin should be moved easily—should be examined, as in some shoulder lamenesses setons may have been inserted, and will occasionally leave a hardened skin. The knee-joint does not always meet with as much attention as it deserves. The skin surrounding the flexor tendons posteriorly, and that part anteriorly, should be readily moved by the hand, and a good search be made for abnormal growth of any kind or description.

During this proceeding we shall see if any interference has occurred with the shoes, such as speedy-cutting, brushing, etc. ; or whether any enlargement exists in any portion of the fetlock-joint, and if the lateral cartilages are healthy, or if there is any indication of disease of the coronet, not forgetting to ascertain if there is any fissure in the hoof at the seat of Sandcrack, and if the frog is healthy. The object of lifting the front foot up to the elbow, is to learn if there be any stiffness in that joint.

This all having been finished, we look to the back and loins to see if any injuries have been inflicted there, such as saddle-galls, etc. If the examiner has not already looked under the abdomen for hernia, now is the time, as when an animal is moved a few steps the hernia is no longer visible. This remark refers only to *scrotal* hernia. Umbilical hernia is not likely to be met with in an animal after a year old, as most, if not all such cases, have been put right at that age.

It is always advisable to have a front foot held up when examining the hind leg, as it keeps it in proper position, and at the same time enables the examiner to perform his work better. The tarsal joint in front, laterally, and posteriorly, should be looked at and handled as named.

Many horses have what is termed coarse hocks, and really appear to be so without disease being present ; but all this must be learned by a lengthened experience. In the course of time, the eye and the hand will undergo so much training that it will become easy to judge of such things.

Having finished the examination of the left side, the operator must go to the opposite one, and perform the same ceremony as he did on the left. The groom then leads the horse at a slow trot once or twice for a few yards, or any number, for the purpose of ascertaining if he trots sound. If satisfied, then a saddle is placed upon the back of the horse, and he is cantered or galloped as far and as long as the examiner considers needed. If this appears satisfactory, the front shoes are removed to search for corns, or any other disease there may be. The shoes are then nailed on, the old nail-holes being used, and the horse trotted again as at first. If he goes right he may be certified sound.

There are several matters which have not been mentioned, as the above are the principal points to look into, and any omission will be taken notice of at the proper time.

Editorial.

CRUELTY TO ANIMALS FROM A VETERINARY POINT OF VIEW.

MEMBERS of the veterinary profession would not be true to the trust reposed in them, if they acted as if, or in any way gave countenance to the suspicion that, they were indifferent to the sufferings of animals, so long as their own material interests were served. Nothing could be more disastrous to their reputation as the natural and professional guardians of animals, and nothing, we are confident in asserting, would be further from the truth. Since the title of veterinary surgeon first became recognised in this country, there have never been wanting men who claimed that designation, who nobly and fearlessly stood forward as the champions of animals, and who, while acknowledging that these were destined for man's use, were determined that they should not be subjected to man's abuse. The earliest of these advocates of the rights of animals was John Lawrence, veterinary surgeon of Birmingham, who, in a work, now very scarce, entitled, "A Philosophical and Practical Treatise on Horses, and of the Moral Duties of Man towards the Brute Creation," and published in 1796, eloquently exposed the cruelties perpetrated on the domestic creatures, and strenuously urged the necessity of legal protection for them in the chapter, "On the Rights of Beasts." "It is but too easy to demonstrate," he states, "by a series of melancholy facts, that brute creatures are not yet, in the contemplation of any people, reckoned within the scheme of general justice—that they reap only the benefit of a partial and inefficacious kind of compassion. Yet it is easy to prove, by analogies drawn from our own, that they also have souls; and perfectly consistent with reason to infer a gradation of intellect, from the spark which animates the most minute mortal exiguity, up to the sum of infinite intelligence, or the general soul of the universe. By a recurrence to principles, it will appear that life, intelligence, and feeling, necessarily imply rights. Justice, in which is included mercy or compassion, obviously refers to sense and feeling. Now, is the essence of justice divisible? Can there be one kind of justice for men, and another for brutes? Or is feeling in them a different thing to what it is in ourselves? . . . If you deny unto beasts their rights, and abandon them to the simple discretion of man, in all cases without remedy, you defraud them of those benefits and advantages acceded to them by Nature herself, and commit a heinous trespass against her positive ordinances, as founded on natural justice. You deprive them, in a great measure, even of compassion. . . . They (the rights of animals) arise, then, spontaneously from the conscience or sense of moral obligation in man, who is indispensably bound to bestow upon animals, in return for the benefit he derives from their services, good and sufficient nourishment, comfortable shelter, and merciful treatment; to commit no wanton outrage upon their feelings whilst alive, and to put them to the speediest and least painful death when it shall be

necessary to deprive them of life. It is a lamentable truth that the breach of these obligations has ever been attended with impunity here. The grand source of the unmerited and superfluous misery of beasts exists, in my opinion, in a defect in the constitution of all communities. No human government, I believe, has ever recognised the *jus animalium*, which surely ought to form a part of the jurisprudence of every system, founded on the principles of justice and humanity. . . . Experience plainly demonstrates the inefficacy of mere morality to prevent aggression, and the necessity of coercive laws for the security of rights. I therefore propose that the rights of beasts be formally acknowledged by the State, and that a law be framed upon that principle, to guard and protect them from acts of flagrant and wanton cruelty, whether committed by their owners or others. . . . *The general blind and stupid adherence to custom* renders it absolutely necessary for a writer on this subject, who desires to render effectual service to the cause of humanity, to enter into particular and disgusting details, to point out individual and specific acts of cruelty, such as are, or have been, in his time most prevalent."

Lawrence penned his chapter many years before the legislature passed a law for the protection of animals, or even before this subject had become sufficiently popularised that any one who discussed it could escape ridicule and abuse. He expected these in return for his powerful pleading, for he says, "I will look down with the calmest indifference upon all such animadversions as are the result of precipitant thinking or interested sophistry." A worthy successor to Lawrence was Youatt, who, in all his writings, but more especially in his book on "The Obligation and Extent of Humanity to Brutes," published in 1839, never failed to show that the veterinary surgeon should be the professional and reliable friend to dumb creatures. And when the Royal Society for the Prevention of Cruelty to Animals was founded, and during its operations up to to-day, members of the profession, recognising its great task and humanizing influence, have lent it their aid by advice and personal support. It is no mawkish sentimentality that impels veterinary surgeons to protest against the wrongs to which animals are subjected, or to take an active part in prosecuting those who are guilty of wanton cruelty. On the contrary, they are only fulfilling the most sacred part of their duty, in protecting or relieving animals from pain, discomfort, or distress. Though there may be individual members whose views are not in accord with those of Lawrence, Youatt, and the other advocates of humanity, and who repel all interference on behalf of suffering beasts, because this interference may infringe upon their personal interests, yet the great majority of the profession repudiate selfish motives, and shape their course so as to guide public opinion. As evidence of this, it will be remembered that at the British National Veterinary Congress held in London in 1881, the subject of cruelty to animals was brought forward in an excellent paper prepared by Mr. Hunting, and the discussion fully maintained the reputation of the profession in this country as that of a body opposed to cruelty in every form, whether for fashion, pecuniary gain, ignorance, or the gratification of a brutal

feeling. But as the subject was too wide to be exhaustively dealt with at the meeting, a committee was appointed to deal with it deliberately and conclusively, and its report having now been completed, is appended. From this it will be seen that the views of the profession, as a body, are clear and definite, and that the public declaration made in it must command acceptance by every one who is not fettered by the most sordid motives or animated by a cruel nature. We heartily endorse these views, and will do our utmost to carry them into effect, receiving, as they do, our warmest sympathy, and more especially the opinion expressed with regard to the mutilations of "nicking" and "docking," the last of which, we are sorry to observe, receives the countenance and manual support of some members of the profession as a *fashionable* operation. It must not be forgotten that veterinary surgeons are not above or beyond the law which controls the conduct of persons towards animals, and that cruelty perpetrated by non-professional persons is no less cruelty when inflicted by professional men. No one can be licensed to perform cruel operations, and the amount of cruelty cannot be measured by the extent of an operation.

Therefore it is that we hail this professional declaration, which comes at a very opportune moment, when the public are beginning to doubt whether veterinary surgeons fully comprehended their position with regard to cruelty to animals, and whether they were not sacrificing much in order to favour horse-dealers, horse-commission agents, and some "sporting" people. At least this we may infer from the following extract from a contemporary who has the welfare of veterinary medicine at heart. In treating of a specified cruel operation, it says :—

"We invite veterinarians seriously to consider the responsibility resting on them when opposing the dictates of civilisation. Why should they be disloyal to their holy calling—the alleviation of suffering, and the prevention of disease—in order to serve the temporary gain of popularity with clients? Is it not unworthy of medical science, and a prostitution of medical capacity, to justify painful operations on horses, for instance, solely because fashion asks that these may be done? Is it honourable to veterinarians to become tail-choppers? Has not everybody whose good feeling and intelligence are worthy of their consideration and regard, tried to raise their profession above the degradation of 'horse-leeches'? Are men who have passed through a learned education content to descend to the level of copers or gelders? Is it their mission to stand as sponsors for 'swells' or 'mashers,' in every senseless whim that caprice or dandyism may suggest? Should scientists crop the ears of terriers, or amputate the tails of horses, according to the demands of fashion, with no regard to science or to the interests of the animals themselves? Is their humane avocation, based on knowledge and progress, to be made subservient to mere money-getting? Are they really going to abdicate in favour of the almighty dollar? For very shame, we hope not; and yet, what but this are they doing, before an astonished public, who are watching their proceedings relating to docking?"

The following is the report alluded to :—

Report of a Committee appointed by the British National Veterinary Congress for the purpose of further considering the subject of cruelty to animals from a veterinary point of view, and publishing a declaration in the name of the Congress on certain practices and painful operations relating to and performed on animals—namely, whether such practices and operations are sometimes necessary, and if so, under what modifications or qualifications they may be performed; or whether they are unnecessary, and therefore cruel :—

In the main we corroborate Mr. Hunting's excellent paper on "Cruelty to Animals."

As, however, it was thought desirable by the Congress to appoint us a Committee to make a public declaration in the name of the profession there and then assembled, on the subjects referred to in that paper, we purpose treating each matter separately and briefly, in order that a code may be formed to guide the public on the points respectively raised.

LAMENESS may be painless or painful. Those cases where the lameness passes off with exercise are, *prima facie*, cases being accompanied by pain—this specially applies to cases of navicular disease and spavin. In such cases horses ought not to be worked, and when worked it is cruelty.

GINGERING is decided cruelty.

WOUNDS are not causes of unfitness for work, unless pressed upon by harness, or affected by the movements of the animal.

TWITCHING.—The practice called “twitching” causes acute pain, and is frequently unjustifiable, especially when a twitch is used by stablemen and others in charge of horses.

BURNING GUMS for “Lampas” is cruelty.

KNOCKING OUT WOLF-TEETH is cruelty.

EXTRACTING TEMPORARY TEETH, save for surgical reasons, is cruelty.

DOCKING AND NICKING HORSES are cruel operations when done for fashion, and not to remove malformations, or cure disease.

DOCKING SHEEP under well-known conditions is a necessary operation.

MARKING AND BRANDING animals, when necessary, should be performed by the quickest and least painful method.

WORMING THE TAIL, DOCKING, AND CROPPING THE EARS OF DOGS are unnecessary, and therefore cruel operations, when not performed to remove malformations or cure disease.

CASTRATION of male animals is necessary, but should be performed in the least painful manner, and by a skilled operator.

SPAYING of female animals is unnecessary, and ought to be abolished.

PARTURITION.—Unnecessary pain is often inflicted by ignorant persons when attempting to deliver the young by forcible and cruel means. A skilled and experienced veterinary surgeon should always be called in to render assistance in difficult cases.

OPERATIONS of various kinds are frequently performed on animals by ignorant persons, and much cruelty is caused thereby, which ought to be publicly deprecated and prevented by law. All painful operations not required for the good of the animal operated on are of a cruel nature. No operation causing pain to an animal should be performed by an unskilful person. All necessary operations ought to be performed in a scientific manner, and by the most humane methods, in order thereby to prevent the infliction of unnecessary pain.

(Signed)

WILLIAM BROUGHTON, F.R.V.C.S., Leeds.

P. S. COWAN, M.R.C.V.S., Colchester.

JOHN H. FERGUSON, M.R.C.V.S., Leeds.

WM. HUNTING, F.R.V.C.S., London.

CHAS. MOIR, M.R.C.V.S., Cardiff.

C. STEPHENSON, F.R.V.C.S., Newcastle-on-Tyne.

GEO. A. BANHAM, Hon. Sec. to the Committee.

PASTEUR'S RESEARCHES IN RABIES CANINA.

M. PASTEUR, who, for the last four years, has been engaged upon experiments in relation to canine madness, on May 20th communicated the results of his labours to the Académie des Sciences. M. Pasteur began by recounting the facts established by his experiments. They are in substance as follow :—

“If the virus of rabies be transmitted from the dog to the monkey, and then from monkey to monkey, it will be found that after each transmission the virulence of the virus has become enfeebled. If the virus thus enfeebled be re-transmitted to a dog, or an animal of that species, it will remain still attenuated. By a few transmissions of the virus from monkey to monkey,

there can easily be obtained a virus so attenuated as shall never communicate, by hypodermic inoculations, the disease to a dog. Inoculations by trepanning of such virus will likewise produce no result; but an animal will, notwithstanding, be rendered thereby proof against the disease. The virulence of the virus becomes, on the contrary, augmented in its passage from rabbit to rabbit. If a dog be inoculated with virus thus augmented in power, a far more intense form of the disease will be manifested than that apparent in ordinary canine madness, and it will invariably prove fatal."

By applying these and other observations, M. Pasteur obtained virus of different degrees of virulence, and succeeded, by inoculations of the milder qualities, in preserving animals from the effects of more active and mortal kinds. For example, after several days longer than the shortest incubation period, M. Pasteur extracted virus from the head of a rabbit which had died of the disease, and inoculated successively two other rabbits. Each time a dog was inoculated with the virus, which, as has been seen, would increase each time in virulence. The result was that the dog was ultimately rendered capable of resisting a virus of deadly strength, and became absolutely proof against canine virus. M. Pasteur anticipates that the time is still distant when canine madness will be extinguished by vaccination, but pending that consummation, he feels pretty certain that he will be able to avert the consequences of a bite from a mad dog. He says:—"Thanks to the duration of incubation after a bite, I have every reason to believe that patients can be rendered insusceptible before the mortal malady has had time to declare itself." M. Pasteur stated, in conclusion, that he had solicited the Minister of Education to appoint a Commission to test his experiments. He added:—

"The principal experiment that I shall attempt, will consist in taking from my kennels twenty dogs insusceptible to the disease, and placing the same in comparison with twenty ordinary dogs. I shall then have all these forty dogs bitten by a number of dogs in a rabid state. If the facts that I have enunciated are exact, the twenty dogs that I believe to be proof against the disease will remain healthy, while the other twenty will become affected. For a second experiment no less decisive, I propose to place before the Commission twenty inoculated and twenty non-inoculated dogs. All the forty I shall then inoculate in the most vascular parts with virus taken from a rabid dog. The twenty inoculated dogs will resist, and the other twenty will all die of madness, either paralytic or furious."

EVERY-DAY MATTERS IN AN INDIAN MILITARY VETERINARY PRACTICE.

II.—BOVINE PATHOLOGY, ETC.

BY J. H. STEEL, M.R.C.V.S., A.V.D., IN VETERINARY CHARGE, R.A., H.S.F.
SECUNDERABAD (1882-3).

To the Army practitioner who has served only at home, it will, at first sight, seem strange that an officer of the A.V.D. should be in a position to make observations in Bovine Pathology. So, in the first place, I must explain that in India it is certain that the ox is of more value than the horse, being much more useful in trade, and not inferior in value for military purposes. On the bullocks of an Indian army (especially one in the Madras presidency) falls the work of transport, of moving the guns of heavy field-batteries and siege-trains, and of conveyance of supplies; also the second line of waggons in light field-batteries is drawn by bullocks. Agriculture, trade, and war in Southern India depend on bullocks, and to meet these and

other requirements there are several valuable breeds available. First in value come the beautiful draught bullocks of the AMRUT MAHAL, in Mysore, to which the enlightened and warlike sultans, Tippoo and Hyder Ali, devoted special care and attention, with a view to their use in artillery work. A full description of them is to be found in our *Quarterly Journal*, but suffice it here to say that they are large (*occasionally*, it is said, attaining seventeen hands from the top of the hump) as compared with the ordinary country cattle, but smaller than animals of the Nellore, Hissar, or Guzerat breeds. Also, they are particularly light in the limbs, and with beautifully clean tendons of the legs, like those of a well-bred horse. They have a large well-developed barrel, enormous, generally straightish, horns, beautifully clear, prominent eyes, and convex foreheads. The skin is soft and delicate, the slate colour predominating, and red being found only in inferior strains. The prominence of the larmier or tear-pit has given rise to a legend among the natives, that the pure Amrut Mahals derive some of their blood from a stag. There is a particularly bright and intelligent look about these animals; they are as a rule timid, especially at the sight of an European, but occasionally prove very decidedly aggressive and most difficult to handle. Their special value consists in their trotting powers. Some of them will rival a good trotting horse in pace—indeed, reports of distances covered by them are often scarcely credible. The smaller of these animals are sent to the transport for pack work, the heavier for artillery draught, the ordinary animals being devoted to transport. Numbers are disposed of as “weeds” from the breeding establishment, and prove a great boon to the Mysore country, much in the way the “stud-weeds” used to be to horse-owners before studs were suppressed. One can’t help, in dealing with these neat, nicely-kept bullocks, feeling as careful and proud of them as of a charge consisting only of horses—indeed, the officers of transport and heavy field batteries take great pride in their bullocks, and those in the batteries are probably the most luxuriously kept and best tended bullocks in the world, being groomed twice a day, fed on grain, regularly used and exercised, tended systematically in health and disease, like army horses, or like cows in a well-kept dairy establishment in England. During two long marches, veterinary charge of transport during the late Camp of Exercise (1884), and of 4/1 Welsh Division Heavy Field Battery for two years, I have had opportunities of observing the Amrut Mahal bullock at various kinds of work, and of becoming well aware of his many excellent qualities. After him comes the NELLORE bullock, the heavy draught beast of this country, used by the Hyderabad Contingent for draught of the second line of waggons. They are fine upstanding animals, much larger than those previously described, and of much more massive build and imposing front. With enormous dewlaps, legs proportionately short, horns also smaller and shorter. They are strong, and sometimes trot fairly well, but are most useful for prolonged slow work. The Nellore cows are excellent milkers, and the influence of the breed is perceptible from the centre, whence it derives its name, far into the Mysore country. Indeed, the strength of the Nellore bullock renders him most useful for ploughing work on the heavy black cotton soil about the Kistna, and especially useful for the purposes of the agriculturist, as, being rather slow in movement, he is less appreciated for trade and Army transport. As I have had but little experience of the other pure Madras breeds (of which there are several), I will here simply mention that all through the Presidency very *small trotting bullocks* are used in very light carts by natives, and such a “turn-out” is very common in and about Madras. It is wonderful what an amount of work is done by these tiny animals, which, I believe, are obtained most extensively in the Salem district.

BUFFALOES are also available for Army transport, whether pack or draught, in case of necessity. They are huge-framed, somewhat sluggish brutes, who make little of ordinary bullock loads. They are not pleasant to look at, but supply valuable milk, and are more useful even than bullocks for ploughing on heavy land, and especially rice fields and other wet cultivation. This latter work suits them well, for they prefer to frequent places more than knee-deep in mud during the heat of the day. "Wall eye," or piebald eye, is very frequent among them, and adds to their already fierce and weird appearance, but they are generally timid rather than ferocious. At the Breeding Farm of H.H. the Nizam, Rajampett, some thirty miles from Hyderabad, Ali Abdoolah, the Superintendent of Breeding operations, showed me some most interesting hybrids between the buffalo and bison, in which the general shape and colour of the buffalo was curiously blended with the ludicrous prominence of the forehead and peculiar-shaped horns of the bison. *Aden and English cows* for dairy purposes are making their way in this Presidency, but the main supply of milk is from buffalo cows, small country cows, and frequently we see some large milch cows of very good shape for dairy purposes. I have noticed that in these latter not unfrequently the HORNS are loose, and shake about when the animal moves; this depends on the absorption of the bony matter of the core at its root, the main part of this bony process continuing attached to the skull only by a fibrous band. Here, then, we have a breed or highly developed individual milch cows almost polled. The observation is curious in its bearings on the question of artificial selection. While speaking of horns, I may allude to the fact, that as the large horns of the Amrut cattle are generally fairly straight, we seldom have to deal with *ingrowing point of the horn*, so common among cattle at home. However, a short time ago I had to treat an animal in which this defect led to impediment to mastication, and abrasion of the cheek, until the offending point was amputated. Although the horns are so stout, they frequently become *fractured* in consequence of the bullocks fighting with one another. Thus amputation of the horn becomes necessary. I had to do with a case of this kind a short time ago, and tried to save the horn by binding it up with splints, but found it necessary ultimately to amputate well below the extent of inflammation of the living membrane of the horn core. The progress of the case was interesting. I dressed it with tar and tow, fixed in position by a piece of bandage cloth and tape, and absolutely no inflammation set in, but also no efforts of nature to block up the opening, through which air rushed at every respiratory movement. I ultimately, at the end of several months, gave up the prospect of closure as a bad job, and had a leather cap made for the end of the amputated horn. In these cattle we sometimes see an *eczematous eruption around the base of the horn* of somewhat an obstinate character, the result in most cases of irritation from the nose-rope, which is apt to become dirty and hard, also to be dragged most unmercifully, or sometimes with necessary severity. Removal of the cause is scarcely practicable, for the bovine pathologist who seizes the nostrils of an Amrut bullock, with the *Sec. Art.* "bulldog" grasp, will, if I may judge from my own experience, not care to do so again! The nose-rope (*natch* or *natti*) must be seized by gradually drawing short the main tying rope (*cowar*). The nose-rope runs from the perforation through the septum narium, and is fastened behind the roots of the horns. The tying rope must be loosened and jerked to behind the horn, then its point of attachment to the nath drawn down to the nostril, which can thus be raised.

Thus the *natti* is too valuable to be removed, so treatment of the eczema must consist simply in lubricating the rope with carbolic oil. Keeping it clean, and avoiding unnecessary dragging at it. Occasionally a sort of *Quittor of the horn*, if I may it call so, has to be dealt with. One soon learns that it

is no easy matter to diagnose disease or injury in these Indian bullocks. On the approach of an European they too frequently snort defiance and utterly refuse to be handled. They strike forward with the hind feet, too, in front of the shoulder, so as to render exploration of the fore limb a dangerous matter, and have also a nasty trick of bounding straight forward with irresistible force. Auscultatory exploration of the chest is all but impossible, unless the animal be thrown and secured ; whoever approaches the back part of the animal to examine a hind limb, to obtain thermometric or pulse records, or otherwise to make observations, retires *re non effecta*. Altogether we are thrown back upon the more ancient and less exact means of diagnosis, state of excreta, general appearance, behaviour, etc., and when recently treating a shorthorn bull, who, like the rest of us exotics (European men, waler horses, and so on), was "feeling his liver," I could not help remarking how well behaved and what a thorough "gentleman" he was, as contrasted with the native cattle. It was quite a treat to have an opportunity of adopting exact diagnostic means in cattle practice. This difficulty of diagnosis must prove a very serious obstacle to efficient performance of duties by cattle inspectors in this country, for which due allowance must be made, and their diagnosis as to the nature of disease present be accepted with reserve, unless confirmed by *post-mortem* examination. The only specific affection among Government bullocks with which I have had to do was an outbreak of Foot-and-mouth Disease in the Heavy Field Battery ; in connection with which I made the following observations, which may prove of some interest to the reader :—

(1) There is no essential difference between Foot-and-mouth Disease in India and at home.

(2) Natives of India, when carefully supervised, make excellent veterinary hospital dressers.

(3) Segregation to 100 yards amply suffices to prevent spread of the disorder.

(4) The disease would suffice to put a Heavy Battery temporarily *hors de combat*, although not likely to prove fatal, nor even to present serious complications among the bullocks which are adults of good constitution and with fair disease-resisting power.

I have ample evidence to prove that Foot-and-mouth Disease prevails very extensively in and about Secunderabad. It is a constant source of apprehension to the Transport authorities. The Indian cattle inspection returns show a *mortality* of about 30% from this affection, which at first sight seems incredible ! But when we come to consider the extraordinary vicissitudes of the life of cattle in India, that they all but die of drought and starvation during the summer, and succumb in large numbers to excessive indulgence in green food during the rains—when we consider also the superstitious apathy of cattle owners, the complete neglect of nourishment of the sick, and the manner in which the village cattle are huddled together, healthy and diseased, in the owners' unhealthy residences for the night, and allowed to intermingle with other herds roaming far and wide in the vain hope of finding enough food during the day, we cannot be surprised at greater virulence of communicable disease in this country than in England. Again, I think it has been clearly proved that all specific affections are more virulent in the tropics than in temperate climes. Also, we must make some allowance for inaccurate diagnosis ; for the civil veterinary authorities have by no means perfect executive subordinates. Thus, also, *Cow-pox* is said to cause extensive fatality out here. The authorities just mentioned do a wonderful amount of work, considering the inadequate means at their disposal, but what with obscurity of diagnosis, the necessity of relying on police information, want of uniformity in local names of diseases, and the "thousand-and-one" other difficulties with

which our civil veterinary officers have to contend, we *cannot* possibly at present have a perfect sanitary veterinary system in India; but we can begin the work of that system by showing Government the enormous prevalence of disease, and the necessity of some organization to expose this prevalence and adopt measures which, in time, will materially diminish this serious drain on the resources of the country.

(To be continued.)

YELLOW FEVER IN CATTLE IN SICILY.

THE Veterinary Professor Chicoli has drawn attention to a nosologic fact which, with regard to its consequences, deserves attention. It is not the first time that the announcement of the appearance of Yellow Fever in cattle has startled veterinary surgeons on the Continent, but hitherto the report has been received with hesitation. Professor Chicoli states that a disease has been prevalent among bovines in Sicily for some time, which, by its form, evolution, and termination, appears to him to be similar to the malady which decimates the human species in South America, and which has been imported into Spain.

It has prevailed in Sicily for five or six years, attacking chiefly the cattle which are always out at pasture. The province of Palermo has been especially visited by it, and the first case, so far as the Professor could ascertain, appeared in the district of Sambuca. The Syndic had prohibited the sale of the flesh of animals which had been affected. From this centre the malady had gradually extended to the neighbouring communes.

The advent of the disease has always coincided with the extreme summer heat, when the dried-up pastures afforded only a scanty alimentation, and the streams furnished nothing but a little muddy water.

The disease commences suddenly, and without any appreciable premonitory signs. Age, sex, or condition does not appear to exercise any influence on the development, course, or termination of this Yellow Fever. Bulls and cows, young and old, all are attacked indiscriminately, though working cattle are most liable.

The disorder commences with shiverings, but these are not always observed. There is a complete loss of appetite, and the animal does not care to move; the head is carried as low as the knees; the respiration is quickened, but not in proportion to the gravity of the malady; the limbs are cold; pulse slow and depressed, sometimes intermittent, and the temperature is between 38° and 39° (Cent.)

The symptoms become very rapidly aggravated. In a few hours from the commencement of the disease the eyes are sunk in the orbits, and the conjunctivæ assume an icteric tint, deepening in intensity every moment. Sometimes there are indications of colic, more or less severe, but these are not constant; they are accompanied by diarrhœa or dysentery, with dark-coloured evacuations streaked with blood, indicating intestinal hæmorrhage. The pulse becomes slower, all the mucous membranes assume a chrome-yellow hue, as well as the skin of the mammæ, scrotum, and all the other parts where it is fine, and almost hairless.

Finally, the animal, utterly prostrate, falls to the ground; the circulation becomes tumultuous, respiration dyspnœic, surface temperature markedly diminished, convulsions ensue, and death soon takes place.

The disease does not always pursue the course just described, as it is sometimes altogether crushing. The shiverings and colic may be absent; and sometimes there is an abundant evacuation of reddish, sanguinolent urine, with a discharge of yellow-coloured, viscid tears. In fact, three symptoms only

are constant: diminution of peripheric temperature, yellow tint of the mucous membranes, and intestinal hæmorrhage.

With regard to the duration of the disease, sometimes this is extremely brief; usually it is only a few hours, and exceptionally the animals may linger for two or three days. Whatever may be the type of the disease, it has always a fatal termination.

The malady might be confounded with ordinary Icterus, or the Remittent Bilious Fever of tropical countries; but the symptoms described, the rapid progress of the malady, its invariably fatal termination, and the characteristic lesions (to be presently mentioned) should distinguish it from the former; while, with regard to Bilious Fever, the intermittent nature of this should differentiate it. It is only, therefore, to the Yellow Fever of the human species that the affection which decimates the cattle of Palermo can be assimilated; and if there is any distinction between the two maladies with regard to mortality, it must not be forgotten that its being constantly fatal to bovines is explained by the fact, that when a contagious disease is introduced into a country it is incomparably more serious than when it is acclimatised.

As when, during life, accessory phenomena are observed in addition to those which are constant, and constitute the essence of the malady, so at the autopsies there are sometimes observed accessory lesions, besides others which are constant.

A marked feature on removing the skin of an animal which has died from the disease, is the yellow hue of the subcutaneous connective tissue, while the muscles have a reddish-brown tint, sometimes almost black. On opening the abdominal cavity there escapes a considerable quantity of citron-coloured serosity, containing shreds of albumen, though this is not constant; but that which is never absent, is the very marked chrome-yellow hue of the adipose tissue around the kidneys and in the great omentum.

The stomachs are healthy, though sometimes congested; the intestinal mucous membrane is sometimes congested, and the contents of the tube are dark-coloured and sanguinolent. The spleen shows nothing abnormal, except that its tissue is, perhaps, more friable than usual, and the same may be said of the liver, though it sometimes has a generalised or partial yellowish tint.

In the thoracic cavity there is generally a quantity of yellow fluid, and the larger bronchial tubes at the base of the trachea are full of a yellow mucus, streaked with blood. The heart is flaccid and empty, and the fat around it is yellow. In the brain the intra-ventricular fluid is also citron-coloured.

In the blood are found the most marked and most constant alterations. That in the aorta has a dark violet tint, the consistence of syrup, and it has entirely lost the property of coagulation. Exposed to the air, the contact of the oxygen does not restore to it the red tint of arterial blood, and in this respect it is as blood which has been acted upon by carbonic acid. When standing in a vessel for some time, it does not separate into clot and serum, but remains in a state *bouillie*, which rapidly putrefies. A chemical analysis has not been made of it; but on microscopical examination there is remarked a diminution in the red corpuscles and an increase in the leucocytes, though no microphytes had been discovered. The fat globules were very numerous, yellow, and swollen.

Chicoli concludes that the intimate nature of the malady consists in an isomeric modification of the anatomical elements of the blood, the yellow coloration being the result of loss of water, the gases, and the salts normally combined with the albumin.

The causes of this bovine Yellow Fever in Sicily are supposed to be the miasmata from the marshes, and the use of muddy water, containing putrid animal and vegetable substances.

It was not possible to decide whether the disease is contagious from one animal to another, as the observations made in this direction were contradictory. For instance, one animal has died in a herd, and all the others have escaped ; while in other cases they have perished one after another in great numbers. The malady could not be conveyed to dogs by feeding them with the flesh of cattle which had succumbed to the disease.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

ANNUAL GENERAL MEETING, HELD MAY 5TH, 1884.

Dr. FLEMING, President, in the chair.

Present :—Messrs. Thomas Greaves, F. W. Wragg, James Lambert, William Robertson, William Wilson, George Gray, J. G. Parr, Wm. Alston Edgar, George Jas. Gould, Nicholson Almond, H. R. Perrins, William D. Bland, G. Digby Whitfield, Alfred J. Owles, Edward Coleman Dray, L. D. Moutray, James Rowe, W. S. Wallis, Jos. Mackinder, Ben. H. Russell, Wm. H. Coates, M. E. Naylor, H. Lawrence, T. H. Lewis, J. S. Price, J. Vaughan, W. Helmore, B. Cartledge, Jas. McCall, Wm. Williams, Henry Dyer, J. Fraser, J. D. Barford, C. C. Sanderson, Osborn Hills, Thomas Aubrey, M. Hack, J. C. Bonnett, Fred. Harvey, G. Wilfred Haydon, Sir F. W. Fitzwygram, Fredk. G. Samson, M. J. Harpley, Thos. A. Dollar, Edwd. S. Shave, W. A. Taylor, Peter Taylor, Thos. Moore, Jas. F. Simpson, Jas. Hall Brown, Thomas Briggs, Wm. Mole, G. H. Evans, G. R. Dudgeon, A. C. Trench, T. G. Hewitt, Wm. Woods, junr., Wm. J. Welsby, Arthur Broad, Joseph Woodger, Jas. Broad, Geo. A. Lepper, Walter Geo. Boswell, W. Reekie, W. Stanford Harrison, John Reynolds, William Pritchard, William Hunting, Charles Sheather, Harry Olver, Geo. A. Banham, H. Durant Gibbings, Alex. B. Daniel, H. J. Cartwright, W. Franklin, S. Woof, H. L. Simpson.

The SECRETARY read the notice convening the meeting, also the minutes of the last annual meeting, which were confirmed.

Election of Council.

The SECRETARY read the report of the Scrutineers, which showed the following names, with the number of votes for each :—

G. Fleming, 826 ; W. Williams, 802 ; T. Greaves, 727 ; J. McCall, 603 ; Wm. Pritchard, 584 ; B. Cartledge, 430 ; G. T. Brown, 368 ; W. J. Mulvey, 343 ; G. Morgan, 339 ; W. G. Schofield, 272 ; Jas. Lambert, 265 ; B. H. Russell, 233 ; J. D. Barford, 164 ; W. A. Edgar, 134 ; Wm. Wilson, 77.

The first seven gentlemen were declared duly elected members of the Council, the first six in the place of those retiring, and G. T. Brown in the place of James Collins.

On the motion of Mr. WILSON, seconded by Mr. WALLIS, the report and balance-sheet were taken as read.

Professor WILLIAMS proposed a vote of thanks to the Scrutineers. Mr. DOLLAR seconded the motion, which was unanimously agreed to.

The SECRETARY read a letter from Professor Walley.

On the motion of Mr. WILSON, seconded by Mr. WALLIS, the annual report was received.

Mr. DRAY proposed and Mr. HELMORE seconded the adoption of the report.

Mr. T. S. PRICE called attention to various paragraphs in the report. He considered the Council were mean in only offering the President ten guineas towards his expenses in attending the International Veterinary Congress. When a gentleman was willing to give his time, energy, and talent to the advancement of the veterinary profession, the Council should meet him as liberally as possible and pay every farthing that he was out of pocket. With reference to the Supplemental Charter, he quite agreed with the Council as to the necessity for applying for it, and he was very pleased to think that they had succeeded in raising the examination fees, but he strongly objected to the part of the paragraph which stated that "An application was made to the Privy Council for this Charter, but the sections with regard to increase of examination fees and a period of pupilage were strenuously opposed by the Highland and Agricultural Society of Scotland and the City Corporations of Edinburgh and Glasgow, acting, it is supposed, at the instigation of the Principals of the Scotch veterinary schools." An annual report should not deal with suppositions. If the Principals of the Scotch veterinary colleges did oppose the Charter they had a right to do so, and the statement in the report was calculated to set one class against another. He thought that the sentence which he had read should be expunged from the report, and he would move a resolution to that effect. The paragraph continued: "Opposition to the increase of examination fees was ultimately withdrawn, but that to pupilage could not be removed, as the interest and influence of these powerful Corporations were too great with the Privy Council to allow such a comparatively insignificant and politically unimportant Corporation as your own any chance of success." Those who drew up the report said that the College was such an insignificant and politically unimportant Corporation that they had no chance of success against the opposition of the Scotch colleges. He moved that the words from "Glasgow" to "success" be expunged from the annual report.

Mr. DOLLAR seconded the motion. He expressed his astonishment that such a paragraph should have found its way into the report. All that should be stated in an annual report was the result of the year's working, and the means taken to obtain those results. No argumentative matter ought to be introduced, and nothing calculated to arouse bad feeling, neither ought there to be anything in the shape of Billingsgate. If the first sentence that Mr. Price had objected to was not calculated to stir up strife and ill-feeling, he did not know what was. If it were a fact that the three Principals of the colleges in Scotland opposed the Charter they had a perfect right to do so, and when they succeeded in carrying their point they ought not to be held up to derision and scorn.

Mr. OWLES said the mover and seconder of the amendment had evidently mistaken the application of the sentences. They seemed to think that the political importance of the College was compared with that of the Scotch schools, but the fact was it was compared with the Highland and Agricultural Society of Scotland and the City Corporations of Edinburgh and Glasgow. There was nothing derogatory to the College in saying that it had less political influence than those bodies.

Mr. PRICE said he had refrained from making any further observations, because he thought it better that one thing should be discussed at a time.

The PRESIDENT said in discussions of this kind the speakers ought not to employ words which were derogatory to gentlemen. Such words as "Billingsgate" were not at all necessary.

Mr. DRAY remarked that the proposer of the amendment had accused the Council of meanness towards the President, but he wished to explain that the Council offered him a larger sum for his attendance in Belgium, but he would not accept more than ten guineas.

Mr. PRICE, in drawing attention to the first paragraph of the report relating to the Registration Committee and existing practitioners under the Veterinary Surgeons Act, 1881, said, when the question of the registration of existing practitioners arose the Privy Council did not seem to grasp the subject in a business-like way. A written statement had been sent to the whole of the profession announcing that if certain members of the profession had any particular names that they wished to give testimony about in order to prevent their being placed on the list of existing practitioners they were to send in a statement respecting them. After many members had gone to the trouble of doing that, another letter was sent from the Privy Council stating that the letters they had received were of no avail—that they must be in the form of a statutory declaration. Certain statutory declarations were then sent to the Privy Council by members of the profession, protesting against certain persons being placed on the register. He maintained that if the Privy Council had done its duty, notice would have been given to the members of the profession who had previously been opposed to placing those names upon the register, so that if they thought fit additional evidence might be sent. With regard to the proposed new building for the College and the Field bequest, he found that the Council had not shown that business tact that they ought to have done. It appeared that the Secretary had discovered a suitable site in Brunswick Square, and announced the fact to the Council. The Council thereupon instructed an architect to view the place and draw up plans, but when the plans were brought up it was found that between £5000 and £6000 would be required for the land, and the Council considered they could not afford that. He objected to the Council going to the expense of employing an architect to survey the premises and draw up plans, without first obtaining information as to what the cost of the land would be. It appeared that the College had £6065 13s. 6d. in hand, and he was quite sure that a suitable site could be obtained for £3000. A building might be erected upon it which would cost another £3000, and the money for it might be borrowed at 4 per cent., which would only amount to a rental of £120 per annum, while £100 a year was being paid at the present moment for the premises in Red Lion Square. The attendances of members of Council were given in the report, but it was not stated how many times they ought to have attended, and he suggested that in the next annual report that omission should be supplied. With regard to the balance in hand, £3668 2s. 11d., he wished to ask whether it was requisite to have such a large sum in hand? Why could not some of it be placed to the credit of the building fund, say £2000? Or why should not the £3668 be placed on deposit at the bank, instead of being merely a running account? The examination fees amounted to £1917 6s. 0d., and the examiners' fees and expenses to £1243, leaving a balance of £673. It should be remembered that by raising the students' fees they did not necessarily get an improved class of students. It was no good increasing the fees unless the preliminary examination was raised.

Mr. OWLES congratulated the profession upon having obtained the Supplemental Charter, but as one who had always thought the pupilage clause would have been very advantageous, he regretted that it had not been permitted. The schools would now have the sole responsibility of training the students, both theoretically and practically, so that their clinical instruction would have to be considerably extended. It had been said by those who opposed the pupilage clause that the examiners had the matter in their own hands. To a certain extent they had, but it was impossible in the short time devoted to examinations to ascertain accurately all that a student knew. No doubt, hitherto examiners had felt some delicacy in rejecting students who had not had an opportunity of obtaining practical knowledge, but now the responsibility would rest with the examiners to reject the pupils if they were

not up to the standard, however much they might regret it. The schools would have to find the means of qualifying their pupils. It had been suggested that the members of the Council should be local representatives—that there should be so many for Scotland, so many for Ireland, and so many for other parts of the kingdom. No doubt that proposal at first sight appeared fair and reasonable, but when looked into more particularly, it would seem to be only a sentimental matter. The College was a corporate body, having a duty to perform towards all veterinary surgeons wherever they lived, and had no local interests, except in the cases of colleges. The schools were represented on the Council, but it would be well to criticise the attendances, and see how the school representatives had performed their duties on the Council.

Mr. HUNTING said the members should try and get rid of the mechanical ideas about the election of the Council and the election of examiners. There was a sort of notion that, because a man lived in a certain place, he was more or less fitted for an examiner or a member of the Council. No geographical representation was wanted. Again, the fact of one man having attended five times and another only once was no evidence that the man who attended five times was a better member of Council than the other. As to the Fellowship examination, for one or two years a fair proportion of men came up for it. When he sat for it he felt that the examiners dare not pluck any one at the first two or three examinations, and so he was pretty safe to get through ; but the examinations were now very stiff, and no one came up to them except a few army men who had plenty of time to keep up their book knowledge. The result would be that in 1886 no man who was not a Fellow would be allowed to be elected as member of Council except the original members of Council who, by the Act, were declared eligible for re-election, whether they were Fellows or not. He would suggest that, unless the profession wished to be governed by the army as they were once by the schools, the Fellowship examinations should be made more practical. It was of much more importance for a man to know something generally of horses than to give the exact number of cubic feet of air necessary for each horse in a stable. A man might know nothing of mycosis in the ox, and yet be a very good practitioner. The profession had made very rapid strides of late, and it was utterly impossible for men who entered it twenty years ago with a deficient education, to work up for an examination such as that to which candidates for Fellowship were now submitted. With regard to all other matters contained in the report, he congratulated the profession.

Professor WILLIAMS said, so far as he himself was concerned, he could give a flat denial to the statement in the report that the opposition to the Charter was “at the instigation of the Principals of the Scotch veterinary schools.” He never instigated the Highland Society to oppose the new Charter. After the matter had been publicly opened by a member of that Society by a speech which was printed in the newspapers, he was consulted about the matter by the Secretary of the Highland Society, and then he did not hesitate to express his opinion against the pupilage clause, as it was well known that he had always been opposed to it. The examinations at the present time proved that pupilage was a mistake, because, as a matter of fact, there were more men rejected who had been pupils than those who had not been. At the last examinations the great majority of those who had been pupils were rejected, while those who had not served as pupils passed the practical examination. Another matter to which he wished to call attention was that last year the examiners received £1243 16s. 9d. There were only nine examiners. The position of an examiner was an honourable one, and the honour itself was almost sufficient compensation to any gentleman who undertook that office. It was high time that the constitution of the

Board of Examiners should be altered. He himself had had the honour of being President of the Council, and had entertained guests at the banquet-table in the City of Edinburgh, and those guests he had paid for. He therefore wanted to know how it was that £50 was charged for the expenses of the last banquet?

Mr. SIMPSON (of Maidenhead) asked if the Council met and received the report prior to its being sent to the printers.

The PRESIDENT said it was not usual to do so.

Mr. SIMPSON said if the statement about the opposition to the Charter being instigated by the Principals of the Scotch schools was merely a supposition it should not have been printed in the report. He did not agree with Mr. Price in condemning the employment of an architect to inspect the site at Brunswick Square, and he thought the Council were perfectly justified in the action they had taken.

Mr. SAMPSON wished for further explanation about the extra £50 for the annual dinner, and suggested that for the future the charge for the dinner should be half a guinea, irrespective of wine.

Mr. TAYLOR said the remarks of Mr. Price and Mr. Dollar would seem to suggest that the Council of the Royal College of Veterinary Surgeons was composed of muffs, but he agreed with Mr. Price that the report should not contain anything which would tend to arouse ill-feeling, for there was even at the present time too much discussion and jealousy among the members of the profession. He considered that as a body of intellectual men they were disgraced by the remarks made by Professor Williams, who had said that the pupils of veterinary surgeons were the worst that entered his college. He would simply ask the members to consider who were the men who occupied the highest position among them. Were they not men who had formerly been pupils of veterinary surgeons? He protested against the remarks which had been made with regard to members of the Council, and thought it would have been much better if they had been thanked for their arduous labours during the past year. The President, who had occupied the chair for four years, had done an immense deal for the profession, and yet fault was now found because £50 had been spent on the annual dinner, part of which was expended in invitations to some of the highest people in the realm. Acting as he had done as Councilman for seven years, he could not quietly submit to the remarks that had been made about the inefficiency of the Council.

The PRESIDENT, in reply to the observations that had been made on the report, said he repudiated the notion that the Council had acted meanly towards him with regard to his attendance at the International Veterinary Congress at Brussels. He was perfectly willing to represent the profession to the best of his ability on all occasions, and the amount which was ultimately allowed him was pressed upon him after he refused the sum that was originally offered. The Congress itself was one of the most successful which had ever been held in Europe, and he believed that the opinions entertained by the veterinary surgeons of the Continent of their colleagues in this country were, on the whole, very favourable. He addressed the Congress two or three times, and was listened to most attentively. He thought it was a matter of very great importance that the Royal College should be represented at that Congress, because England was now the centre of attention, from the fact that this country was endeavouring by legislative measures to suppress maladies which had been a scourge to the civilised world. It would have been a disgrace to the profession if they had not been represented at the Congress. With regard to the paragraph relating to the application for a Charter, it had been repeatedly stated by two Principals of Scotch colleges that they would oppose to the utmost of their ability any attempt to establish pupilage. At

the Privy Council office he was not positively informed, but a hint was given him to the effect that the Corporations alluded to in the paragraph were acting in the interests, and on behalf of the veterinary schools in Scotland. Who informed those Corporations that the interests of the veterinary schools were in danger by the passing of a charter in which pupilage was to be imposed? The Highland Society could not have known it of itself, because the matter had been discussed before the Council and no information about it had appeared in the public prints. At an interview which he had with Lord Carlingford, that nobleman did not disguise the fact of the great political influence of those Corporations, and begged him to try and get their opposition removed, otherwise the Charter could not be granted, so that the allusion to the College as a comparatively feeble Corporation was no reflection upon them as a body. The Corporations of Glasgow and Edinburgh were great Liberal corporations, and their influence in politics was very strong. With regard to the registered practitioners, it would be difficult for any one who had not taken part in it to appreciate the anxiety, the labour, and the time which had been expended by the committee appointed to investigate the different cases. It was the earnest desire of every member of the committee and of the Council, that no one should be registered who could not give a clear proof of his ability. A number of persons were refused, but these had a right of appeal to the Privy Council, and the Privy Council ordered their registration. The Act of Parliament, however, provided that any one who obtained registration under false pretences could be punished. Every care had been taken that none but those who were really eligible should be registered, and if some had been registered who were not eligible, the remedy was in the hands of the profession. With regard to the new building, he did not believe that any one was more anxious for it than himself. For the last five or six years he had rambled about London looking for a site. Their position at 10, Red Lion Square, was a disgrace not only to the profession, but to the country at large. If the whole body of the Council had as strong a desire to get a new building as himself, the matter of money would not prevent the accomplishing their object. If they secured a building and got into it, he had no doubt that many members of the profession who now stood aloof would assist, so far as money was concerned. The last communication received from the Privy Council with regard to this matter, was to the effect that they declined to assist in obtaining a building; still he thought that in a short time the College would be properly housed. The position of the profession in this country entitled it to a respectable dwelling, and until that was obtained he did not think they would make that appearance before the public which they ought to. With regard to the number of Council meetings, he might state that there had been six during the year, as already appeared in the report. It had been said that the number of examiners was nine, but it was twelve. The expenses appeared heavy, but the duties of the examiners were no joke. With regard to the expenses of the last annual dinner, he might say that the Dinner Committee anticipated that the number dining would be about one hundred, but there were only between fifty and sixty present, and the rest, of course, had to be paid for at a reduction. The attendance of members of the Council at the council meetings were extremely irregular, and the work of the Council fell heavily upon those who did attend. During the last three or four years the number of committees had been numerous and the sittings prolonged. He begged the members to elect those who would attend most frequently. It would be seen by the report, that while some members of the Council had rendered the profession a very large amount of service by their frequent attendance, others had never been present. He considered that the profession had been well served by the active members of the Council.

The amendment was put and negatived, nine voting for, and twenty against it.

The adoption of the report was then carried by twenty-four votes against three.

Mr. SAMPSON proposed that the cost of the dinner-tickets should be 10s. 6d., exclusive of wine.

Mr. PRICE seconded the motion.

Mr. SIMPSON (of Maidenhead) moved that the question be left as usual to the Council.

Mr. WHITFIELD seconded the amendment.

Mr. SIMPSON (of Windsor) thought that after what had been said at that meeting, it would be better to leave the matter in the hands of the Council, who would no doubt give effect to the opinions which had been expressed.

Mr. SAMPSON thereupon withdrew his motion.

Professor ROBERTSON said there was a strong feeling amongst a few members of the Council that means ought to be taken to have a larger attendance at the annual dinner.

Mr. HUNTING proposed that while the arrangements should be left as usual to the Council, the meeting was of opinion that the dinner committee would do well not to allow the cost to exceed 10s. 6d., exclusive of wine.

Mr. PRICE seconded the motion.

Mr. Hunting's resolution was then put to the meeting, twenty-four voting for and twenty-six against it.

The resolution was declared lost.

On the motion of Mr. HELMORE, seconded by Mr. WALLIS, a vote of thanks was accorded to the President and officers of the Council, and the proceedings then terminated.

In the evening about fifty members of the profession dined at the First Avenue Hotel, Holborn.

THE MIDLAND COUNTIES VETERINARY MEDICAL ASSOCIATION.

A MEETING of the above association was held on the 4th of April, at the Grand Hotel, Birmingham; the President, H. M. Stanley, Esq., Birmingham, in the chair.

The following members were present:—T. Greaves, Esq., Manchester; Messrs. H. Olver, Tamworth; W. Carless, Stafford; B. H. Russell, Grantham; A. Hodgkinson, Hanley; F. Blakeway, Stourbridge; E. Hodgkinson, Uttoxeter; J. M. Parker, Birmingham; R. H. Perrins, Worcester; F. W. Wragg, Whitechapel, London; H. D. Pritchard, H. J. Cartwright, and R. H. Cartwright, Wolverhampton; F. W. Barling, Ross; T. J. Merrick, Northampton; H. Collett, WestBromwich; G. Smith, Tunstall; J. Wiggins, Market Harborough; B. Freer, Uppingham; E. Meek, Walsall; O. J. Hills, Leamington; J. H. Reynolds, Daventry; T. Chambers, Dudley; J. Malcome, Birmingham; A. Bowles, Abergavenny; F. H. Pinkett, Worcester; G. Rossell, Sandiacre; H. Blunt, Lutterworth; W. C. Ison, Atherstone; M. Tailby, Birmingham; A. Over, Rugby; Wm. Dale, Coventry; R. R. Cole, Hinckley; H. Goule, Malvern; E. Price, jun., Birmingham; A. Green, Dudley; R. C. Trigger, Newcastle; and E. Beddard, Wolverhampton, hon. sec.

Among the visitors were Captain C. Boycott Wight, Pendeford Hall; J. Sampson Gamgee, Esq., Birmingham; Dr. Ward, Sparkbrook; R. Wilson, Esq.; Messrs. T. Briggs, Bury, Lancashire; H. A. Powlson, Uttoxeter; C. J. Barnes, Cheadle; J. G. Cross, Shrewsbury; J. Pring, Claverley; T. Horton,

Birmingham ; J. Manley, West Bromwich ; J. W. Hill, Wolverhampton ; and R. J. Smith, Kidderminster.

The SECRETARY read letters of apology for non-attendance from the following members :—

Professor Pritchard, London ; Professor Walley, Edinburgh ; Professor Williams, Edinburgh ; and G. Fleming, Esq., London ; Messrs. H. Goodall, Melton Mowbray ; J. L. Barling, Ross ; J. Coe, Stoke-on-Trent ; T. H. Merrick, Northampton ; A. B. Proctor, Solihull ; L. C. Tipper, Balsall Heath ; and R. G. Verney, Stratford-on-Avon.

The SECRETARY added that he had received thirty letters from members of the profession, stating they were unable to be present, but all agreed that docking, when properly performed, was not a cruel operation.

The SECRETARY read the minutes of the last meeting, which were duly confirmed and signed by the President.

The following letter was read from Professor Walley, with reference to the election of Councilmen.

“E. Beddard, Esq.

“Edinburgh, *March 3rd*, 1884.

“Dear Sir,—I learnt incidentally on Friday last, at Newcastle-on-Tyne, that at the Midland Counties Association held some little time since, it was determined to offer no opposition to the return of certain of the retiring members—five names being mentioned. Now as I retire this year, I assume there must be some reason for the action taken by your association in not coupling my name with the other five ; or otherwise the fact of my retiring has been overlooked. I shall be glad to hear from you if I have done anything in any way to offend the members of your Association.—I am, yours very truly,

“THOMAS WALLEY.”

Mr. BLAKEWAY explained that the reason he did not include Professor Walley with the names of the five retiring Councilmen he proposed at the previous meeting, was because Professor Walley was a vice-president, and he did not know that Professor Walley was likely to be nominated as a member of Council. After speaking of Professor Walley's regular attendance in Council, the ability he brought to bear upon the business brought before them, and the fact of his being an honorary member of this association, he said he should be pleased to see Professor Walley's name added to the five previously proposed. This being the unanimous wish of the meeting, the Secretary was instructed to write to Professor Walley, explaining why his name was omitted, and the unanimous desire of the meeting to support his election.

The SECRETARY read the following letter from Mr. Simpson :—

“93, Peascod Street, Windsor, *April 2nd*, 1884.

“Dear Sir,—I have to acknowledge, with many thanks, your invitation to attend the meeting of the Midland Counties Veterinary Medical Association next Friday, and I am sorry it is quite out of my power to attend. You are doubtless aware I have a motion for discussion by the Council of the Royal College of Veterinary Surgeons. Allow me to call your attention to a letter from myself in the VETERINARY JOURNAL for April. A similar one may be in the *Veterinarian* ; I have not yet seen the last-named journal. In bringing forward my motion, my hands will be materially strengthened by a resolution which, I very much hope, your association will pass, viz., that you approve the motion on docking. I have received from various associations resolutions of approval and sympathy, which I value very much.—Believe me, dear sir, yours very truly,

“HENRY L. SIMPSON.”

The meeting then proceeded to the election of new members.

On the motion of Mr. MEEK, seconded by Mr. PARKER, Mr. Pitt, of Birmingham, was elected.

Proposed by Mr. HODGKINSON, seconded by Mr. TRIGGER, Mr. C. T. Barnes was elected.

Proposed by Mr. H. J. CARTWRIGHT, seconded Mr. WIGGINS, Mr. J. G. Cross, Shrewsbury, was elected.

A long and most interesting discussion took place upon Mr. Cox's paper on "Parturient Apoplexy," Messrs. Greaves, Blakeway, Russell, Hodgkins, and Wiggins, etc., taking part.

The PRESIDENT then gave his inaugural address, as follows :—

Mr. Vice-President and Gentlemen,—At the last meeting of this, the Midland Counties Veterinary Medical Association, held at Northampton, I had the honour of being elected President for the ensuing year, by which I have to arrange for the subject which is to be brought before your notice at this meeting. I would that it had fallen upon some one more capable of the duties, especially as we have so large an attendance. I will assume that you have all received the printed paper on the subject of docking horses, and therefore introduce the discussion with only a few preliminary remarks, hoping that its importance to the veterinary surgeon and the public generally will be considered sufficient to warrant our having deviated from the usual practice of reading the paper at the meeting, so as to insure more careful thought and remarks.

It is considered necessary that the views of the veterinary surgeons in the Midland Counties, and I wish it could be of all the associations, should be heard previous to the next meeting at the Council of the Royal College, when the subject will then be brought before them. The reason for doing so is that some of our fellow-practitioners holding a very high position, both among us and the public, have expressed themselves strongly against it on the ground of cruelty. I am not called upon by my position to express only my personal views, but to ask you one and all to give yours conscientiously, without consideration of side or party, for without this our meeting to-day will benefit neither horse nor man, which to my mind is the object of our gathering. If veterinary surgeons are not among the truest and kindest friends of dumb animals, who are or who should be? And, again, to whom are the public and those in authority to look for assistance to guide them in forming a proper opinion, if it is not those to whom the governing bodies of their own country have entrusted that serious responsibility. With these few remarks I lay the paper before you, written by Mr. E. Stanley for discussion.

The PRESIDENT, in introducing the subject of docking, said that it was considered advisable that it should be brought before the notice of the members of the association, in order that their views be had prior to the next meeting of the Royal College. The reason for doing so was felt to be necessary, inasmuch as the public had expressed themselves strongly against docking horses on the ground of cruelty. He was sure amongst the veterinary surgeons of the country the greatest kindness was shown to dumb animals.

The paper, here introduced, was taken as read.

Mr. President and Gentlemen,—It appears better to take a common-sense view of this subject, and to consider the matter fairly, commencing with—"What is a Tail?" The organ of locomotion in reptiles and aquatic animals, but in mammals we find it dwindled away to a rudimentary appendage, so unimportant to the animal economy that we often find it entirely wanting.

Naturally, then, to be useful, it should be large, as in a snake or eel; a crocodile has a fair-sized one. Is it useful to him? Certainly not out of water, for it makes him very awkward and slow in turning; therefore, we infer his tail is for aquatic locomotion. Reptiles and fishes find this

appendage indispensable. A bird's tail resembles a fish's, because it is required to assist movements in an analogous fluid (although a peacock does not find it so), and, as we approach the higher forms of life, so we find the tail diminishes and disappears, in the same manner as we see the rudimentary digital extremities, called ergots or claws on the fetlocks of cloven-footed animals—cattle, sheep, swine, etc.—and the same in the dog, termed dew-claws or fifth digits (usually amputated in sporting dogs).

To support the view that there is analogy between the tail and these useless remains of former developments no longer requisite to the altered state of the animal. Our old-fashioned rough sheep-dog is actually born without a tail, so in the Manx cat, the bear, the guinea-pig, and many others. The domestic pig's tail often drops off, and, at best, it is very useless. It is a doubtful question the use of a tail in progression; some say it assists greyhounds' speed, but, turning against this, we ask, what assists the hare, a brushless fox, a deer, and many other swift animals, having most rudimentary tails? Take the long tails of camels, elephants, and cattle. What use are they? Wretchedly weak, flimsy, atrophied things; we feel sorry for them, they don't even answer their purpose as fly-whisks, because they are so weakly organized, the muscles tire before the attack of a gad-fly, and the poor beast has to run for it.

We might write a volume about tails, but the chief one before us is the horse's tail, which is simply a *rudimentary appendage*, and could be very well dispensed with altogether, so far as its necessity to the animal's utility and domestic life is concerned.

We see it often incompletely developed, proving nature attaches little importance to it; some are long, thin, and weak, like a cow's, elevated with difficulty, dangling between legs; some curled laterally on to one quarter, showing one-sided muscular development; some are elevated, some depressed; some so void of circulation that no hair is grown; some, a mass of disease without the animal feeling discomfort, *illustrating its low sensibility to pain*. It is the tail end of the beast, almost removed from connection with the rest of the body, and ill supplied with vitality or sensation; he does not even feel hairs being pulled out.

Why is a horse's tail so differently furnished from other animals by long flowing hair reaching to the ground? Not to whisk flies away, for the very weight of hair overpowers the attenuated muscles and frustrates this purpose, the lips and feet being used instead, and the skin muscle of the neck and shoulders. *Flies* do not attack the genital organs; they are provided with odoriferous glands, which are offensive to insects.

Flies usually attack the head; ears and face being specially attractive. The hair of the fore-top and mane are useless weapons against flies; their use is, *protection from violence*; horses go head first through thickets and brushwood, breaking their way with their arched crests; and stallions, who alone are furnished with tusks for fighting purposes, invariably direct their attack at the crest of opponents, which part nature has protected by a heavy growth of hair, only seen to perfection in entire horses.

Had the tail been so important as a fly-whisk, surely it should have been situated between the horse's ears. We do not find the tail most fully grown in hot, fly-swarmed climates. On the contrary, it is in cold, wet, snowy, wind-swept regions, that the mane and tail show luxuriance. Northern-bred ponies, cart-horses, and other coarse breeds, reared in the open, are examples, indicating that the chief use of the tail is for warmth; to protect the animal's body from the elements. The horse invariably stands with his tail to the storm, although on looking at the direction of the hairs on his body, one would have thought he would face a gale.

The luxuriant hair undoubtedly protects the external generative organs

from violence ; however necessary this may be in a wild state, such ample covering is not tolerated in domestic life, not only because unnecessary, but would be positively inconvenient to the animal himself.

Long tails are best illustrated by our blood horses, because they have light hairs and thin weak tails, which add to their graceful outline and general beauty, without interfering with their special use ; probably this is why they are not docked ; but if they always had to be plaited and bobbed up with ribbons (as seen on a dirty racecourse), short tails would soon be the fashion.

Why are horses so generally docked ?

For cleanliness and comfort to horse and owner. Experience has taught men that the long tail of his noble favourite is useless to the horse, and a nuisance to the owner. As a dirt distributor it has few equals. We don't canter over grassy plains, but use them on muddy roads, with valuable carriages behind them, or well-dressed gentlemen on their backs, who consider cleanliness a comfort.

The short dock means or makes short hair, which limits the mud-bespat-tering power of that appendage, and it is not necessary to leap over the banks of Ireland to know the discomfort of a long dock swaying to and fro in a helplessly-indifferent, smother-everybody fashion ; and servants bless the long tail in harness, when the use of the whip is answered by a playful whisk of the interesting organ, and a disagreeable shower of particles scattered everywhere.

Observation of stable management shows the tails of horses are often neglected and filthy ; a short tail is usually kept much cleaner than a long one.

Domestication makes a short tail a positive comfort to a horse. After a certain age its natural use has passed away, the majority of horses being compelled to relinquish the open fields for the stable. What a miserable picture is a wet tail, bedaggled with mud, clinging about the poor beast's legs, or a long, washed tail, left to dry on a tired, shivering, willing slave, after his day's work. Often and often this appendage is forgotten or neglected, especially in the coarse animals that have the most luxuriant supply of graceful tresses, and we find an accumulation of dirt and filth, a source of irritation, itching, and consequent rubbing of the parts, destroying the hair, and causing unsightly disfigurement.

Docking is not only expedient, but necessary for safety and utility.

It is usually acknowledged by thinking men that a short dock is absolutely necessary for the safe driving of the majority of our many classes of harness-horses, cobs, and ponies—the latter classes being used in low-seated carriages, render a short dock imperative for the comfort and safety of the driver. Country folks keep the same phaeton, gig, village cart, four-wheeler, or trap for years, and use young untrained animals of various sizes in the same conveyance, so that it is impracticable to say, Put up your box-seat, raise your dash-board, rein-supporter, etc., etc. It is ridiculous to talk of a long tail being less likely to get over the driving rein than a short docked one, when it makes a circular remonstrance against the driver's urging whip, adroitly catching the rein (and the horse knowing he has done wrong tucks his tail between his legs and holds it tightly), and if vicious, it is a perilous moment, and disagreeable enough at any time, for drivers sitting below their horses. Gouty individuals, stout ladies, lame folks, and many others, cannot go on coaches. Shall such horse-owners be condemned to stop at home because sentimentalists would oblige them to run a risk of danger so plain, yet so easily obviated ?

With a short dock such an occurrence is almost impossible, or very rare indeed ; a cocky little wriggle will liberate the rein, even if caught ; to hold it is next to impossible.

On Pecuniary Grounds.

The highest commercial quality of a horse is his appearance, and this is never complete unless he has two good ends, *i.e.*, head and tail. One can scarcely believe how much a horse's value is increased by the simple and almost painless operation of docking : it puts £25, £50, or even £100 on some animals.

Select a young, strong, half-bred weight-carrier, with a long, heavy tail and terminal extremity, three or four inches too long, curled upwards and outwards, the tip elevated through the hair in the animal's vain efforts to raise the tail (or carry his flag), which the attenuated muscles are too weak to elevate, or even to carry straight—dock such a horse, in other words, cut off the flimsy, inert, and useless, as well as unsightly extremity, and up goes the tail, and with it the horse's commercial value.

The pecuniary argument alone will prove a powerful cause for continuing the operation.

Docking lambs is economy, and a direct *pecuniary* saving to owners, and therefore for the public good ; the lambs gain in comfort and cleanliness ; they escape the attack of flies (surely nature is more cruel than art in permitting the larva of the fly to prey on the living flesh of the sheep), so that docking lambs means practically saving their lives, saving expense in shepherds' time to watch for maggots and dressing dreadful sores, which cause immense suffering and loss, and is a saving of food for the people.

Sentimentalists will tell us little lambs are very cruelly treated, some even die under this barbarous operation performed by rude, uncouth hands, and quite unnecessary if the shepherd is sufficiently vigilant in watching his flock, yet the *kindness* of the shepherd is proverbial.

If docking is justifiable for gain in one class of animals it is also in another.

Is Docking Cruelty ?

Cruelty means inhumanity, barbarity, unmerciful, hard-hearted brutality.

All men and animals that have a nervous system are inevitably bound to suffer pain, and we are justified in painful operations if in our judgment *the object* is to benefit mankind, either directly or indirectly.

As instances of the justifiable infliction of pain, we have the horrors of war, our slaughter-houses, destruction of game and vermin, vivisection, and the minor operations on domestic animals, as castration, spaying, inserting rings in the noses of bulls and pigs, rounding hounds' ears, branding stock, ear-marking cattle, amputating dew-claws, shearing and clipping animals, and surgical operations of all kinds.

Mr. John Colam, Secretary R.S.P.C.A., says "operations which are *needless* and *painful* cannot be defended."

We are justified in killing animals, because we relish the food, although vegetarians prove flesh is unnecessary for the support of human life, still an infinite amount of pain is caused by the fashion of eating flesh.

Emasculation of all classes of animals (including human beings), strikes one as extremely cruel, and yet we find these highly sensitive organs so important as to be indispensable for the reproduction of the species, situated *outside* the abdominal walls, because the all-wise Creator foreknew eunuchs would become necessary to the welfare or the convenience of mankind. Surely the same argument will apply to the amputation of the caudal extremity, so differently organised from the above-named highly sensitive organs.

The structures of the tail all attenuate from base to apex, *an instance of vitality at its lowest ebb*, and is well illustrated in young pigs.

As to the cruelty of the operation of docking it is idle sentiment to call it pain ; hundreds are docked by a cut of a knife, standing without restraint of any sort ; many do not feel cauterising the cut surface ; almost all will allow manipulation of the sore during the healing process without flinching. Instead of being a *painful* operation it is the most *painless* we know, that confers so many advantages to all concerned.

It is unjust to the manhood of British sportsmen, horse-breeders, owners, and veterinary surgeons, to be stigmatized as cruel for an act which has been found advantageous throughout long ages, by increasing the animal's beauty, comfort, safety, usefulness, and value, and the following is a summary of the grounds for continuing the operation. Domestication has so altered the natural habits and condition of the horse that the tail is no longer required for warmth, and the short dock contributes to both the cleanliness and comfort of the horse and his owner.

It is absolutely necessary for safety and use of many harness-horses.

And, on pecuniary grounds, by adding to beauty of outline and bearing of the animal, increases his value, and consequently the extra care in future bestowed upon him.

Many operations on men and animals are only justified by the pecuniary benefit conferred on the community by the suffering of the individual, and when the suffering is so exceedingly limited, as in this simple operation, it is idle to talk of suppressing it by legal measures, which is seriously threatened by the eloquent pens of powerful opponents, appealing to the feelings of the sensitive few.

If this agitation go no further than to prevent untimely and needless docking by officious and thoughtless people, it will do good, as doubtless there are proper and even scientific methods of performing this simple operation, which go far to rob it of its apparent barbarity, so vividly painted by Dr. Fleming in his editorial for February last. I cannot help protesting against his insinuation that the veterinary profession "pander to the depraved taste of docking for the sake of the few paltry shillings" they get as remuneration for operating.

He having already written on page 120, "*Sometimes* docking is performed by a *veterinary surgeon*, but far more frequently it is done by the farrier, blacksmith, or horse-dealer."

Such invidious remarks coming from men in the position of Dr. Fleming and Professor Pritchard (read "The £ s. d. Argument," p. 425, VETERINARY JOURNAL, December, 1883) are misleading to the public, and are therefore to be regretted.

I cannot believe the public will permit this simple act to be stopped by law. Even if it is so, we fear it will be continued at the risk of penalties ; and we trust there are plenty of sporting magistrates who will dismiss such prosecutions as frivolous.

Horses are docked because the owner believes the operation necessary ; whether for safety or simply to increase the value of the property it matters not ; the owner's motive is a good one, and therefore righteous and just.

If the law can prove a man simply cuts his horse's tail *needlessly*, for the sole purpose of inflicting pain, no matter of how trifling a degree that pain may be, by all means let the law punish him. But let us, as veterinary surgeons, point out our views, and then leave the decision of the matter to the discretion of our magistrates.

Mr. GREAVES, in opening the discussion, said he was exceedingly sorry the professors were not there to give us an expression of their views on the operation of docking horses. It was no doubt at the present moment a question of

considerable importance to the profession. He thought that eight out of every ten members would agree with him in saying that it should be left to the discretion of veterinary surgeons to operate in every case as they thought fit. He was not in favour of indiscriminate docking, but let the professional men exercise their knowledge without any fear of being interfered with. In July next at Manchester there would be a meeting of the National Veterinary Association, when the subject of cruelty to animals would be thrashed out. He did believe it was right the Royal Society should interfere between some men and their badly abused horses, but in professional matters the veterinary surgeon maintained that it was necessary to perform certain operations although they might be painful, so long as it was necessary to overcome disease, such as Canker, Sandcrack, etc. Such an operation as lopping dogs' ears was unnecessary, and consequently cruelty. With regard to horses' tails, there were some dealers in London who docked every horse that came into their possession; that is quite unnecessary, and in many cases cruelty. The view he took of it was that the veterinary surgeon should not be interfered with, but allowed to exercise his own discretion.

Mr. CARTWRIGHT thought that docking was often absolutely necessary, but the operation should be performed by competent surgeons; if properly performed there was very little pain attending it.

Mr. WIGGINS asked whether a paper from Mr. Fleming, who was absent, should not be read; he thought it right it should be read before they decided the matter.

The PRESIDENT said the meeting had been called to consider the printed paper compiled by Mr. Stanley, and in his opinion it would not be fair to discuss Mr. Fleming's paper.

Mr. MERRICK said the paper formed part of the discussion, and in his opinion should be read.

It was therefore decided that his paper should be read.

The paper was as follows:—

"It would occupy valuable time needlessly to discuss why some species of animals have largely developed tails, and other species the merest rudiments; or even why varieties in species which have long tails, are all but minus these appendages—as the apes, in the natural order Quadrumana. This is a matter which may be left to zoologists.

There is no evidence whatever to prove that the horse's tail is a rudimentary appendage, as stated by the essayist; on the contrary, there is every reason to believe that it is as fairly developed now as in the earliest progenitors of the equine species.

That the tail could be dispensed with altogether, so far as the utility and the domestic life of the horse is concerned, must be decided by those who have observed the uses to which the tail is made subservient, both in the stable and out of doors, and especially during hot weather, and the season when flies are most troublesome. Ample evidence of this utility is afforded in the case of troop-horses on the picket lines; and so seriously have they suffered at times from the attack of flies, when docking was fashionable in the army, that this operation is now never performed on troop-horses or officers' chargers, and no docked horses should be purchased for military purposes. Look, too, at brood mares in a field or paddock in the summer and autumn, and say if the tail is of no use! Without the tail, or with it amputated as is now the fashion with working horses, the foal would have a poor chance of being properly reared, because of the annoyance and torture the dam would experience from irritating insects.

My own experience, and that of many horsemen in this country, is that the tail of the horse is a most useful organ, and its removal is detrimental to the animal's comfort and utility.

The tail in some horses may be incompletely developed or deformed, but this is no proof of its uselessness. We might as well argue, that because some children are born blind, deaf, ill-developed, or have deformed legs or arms, that the organs of vision or hearing, or the members are useless, and could be dispensed with.

Long tails are undoubtedly used to remove and keep away flies, the length of hair of a full-grown tail permitting the sides of the body to be swept by it. Flies do constantly attack other parts of the body besides the head, ears, and face. They attack the latter most frequently, no doubt, because the animal has difficulty in removing them. Flies do attack the penis and sheath, and more especially inside and outside the flanks, where the skin is thin. In hot countries, where flies and other troublesome insects abound, the tail is well developed, the hair often reaching to the ground. Its utility is recognised in these countries, as well as its beauty, and for this reason horses are never mutilated as in this country.

I entirely dissent from the statement that the sensibility of the tail is low, or that it is a whit less endowed with sensation than many other parts of the body. The truth of this can be very easily demonstrated.

I quite agree with the essayist, that in northern countries the tail is a protection in severe weather ; and as horses are employed here in severe weather, the argument that the tail should not be mutilated holds good.

The essayist appears to labour under the mistaken notion, that those who oppose docking confound the dock (*i.e.*, the bones, muscles, bloodvessels, nerves, and skin) with the long hair. I certainly do not. The horse's dock is comparatively short even in big horses, seldom longer than twenty inches. If the hair is cut off square from the end of the dock, it will be found that the horse has a short tail, sufficiently short for all practical purposes, as far as utilising the horse goes.

The essayist cannot have seen many stallions fighting, else he would not assert that they only attack the neck. It is true they often prefer that part to seize with their teeth, but they are also inclined to seize the fore limbs, and not unfrequently fly at the face and lips, and kick as well as bite. The hair of the mane and forelock is of little, if any value in fighting ; but it is decidedly of much service in keeping off flies from the neck and forehead.

All the cleanliness desirable in domestication, so far as the tail is concerned, can be obtained by cutting the hair to any length without amputating the dock, and all the complaints about mud clinging to the tail can be got rid of by this simple and painless measure, which does not leave the poor horse defenceless for ever afterwards. For it must be remembered, that though it may be said that the flies do not annoy horses in stables (which I deny), yet that horses and mares work out of doors, and that many of them are even turned out to graze at times, and are exposed to flies and weather.

The safety supposed to be obtained in harness by docking horses is disputed by most experienced horsemen ; and so far as my own experience and observations go, is purely imaginary and a fallacy. In countries such as the United States, Canada, Russia, and indeed all over the Continent, as well as in the East, docking is not practised ; and yet in all of these horses are driven in harness, and in some of them, as the United States, horses are only employed in harness ; and from the way in which they are harnessed in buggies and trotting machines, if the natural dock was dangerous, or even diminished the usefulness of the horses, it would soon be shortened or removed altogether, for the Americans are a utilitarian people, and do not indulge in idle fancies.

But if it be conceded (which it cannot be, in face of the evidence to the

contrary), that safety in harness is obtained by amputating the dock, what argument of utility can be brought forward in favour of docking polo ponies, park-hacks, and riding-horses in general? Some of these are left with only a few inches of dock.

The operation of docking, when not performed for the cure of disease or removal of deformity, must be considered useless, unless good reason can be shown for resorting to it in other circumstances. I have at present under my observation about 13,000 horses which have not been docked, and no bad result has ever been reported from their being allowed to retain the natural length of the dock. On the contrary, it would be highly disadvantageous to them, and prejudicial to the interests of the service, to have them docked. At one time they were all docked, as it was fashionable.

The essayist alludes to the increase in money value of docked horses. This is simply because it is fashionable to have them docked. In other countries the operation would decrease a horse's value very considerably, by diminishing his beauty and completeness. A few years ago certain breeds of dogs—terriers, for example—had scarcely any value unless their ears were cropped, simply because a depraved fancy caused "cropping" to be fashionable. That fashion is dying out, because it is not only cruel and unlawful, but also people are seeing the absurdity of it. Dogs' tails are cropped or shortened, because it is fashionable to have dogs with short tails, for the same reason that horses are docked.

(To be continued.)

THE WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

THE usual quarterly meeting of this society was held in the Veterinary College, Glasgow, on 30th April. Vice-president, Mr. Anderson, jun., in the chair. Present: Messrs. Pottie, Lindsay, Peddie, Allan, Blue, Weir, Brownlie, Boyle, Weir (Airdrie), Tweedley, Taylor, Pollock, Kerr, Pollock (Hamilton), Wyper, Mitchell, Jarvie, and the Secretary.

Apologies for absence were received from Professor McCall and Messrs. Campbell and McIntosh.

The minutes of the last meeting having been read and confirmed, the Chairman called upon Mr. Pottie to make some observations on Mr. J. H. Cox's theory of the cause of Parturient Apoplexy.

Mr. POTTIE said:—It is now about fifteen years since I read a short paper before the members of this Association on "Milk Fever." My endeavour then was to prove that the knowledge we possessed regarding it was very defective, and as I had been experimenting with several cases, I gave the result of my finding, the conclusion of which was that the treatment I commonly adopted, on the recommendation of my teacher, Professor Dick, instead of curing the cow, often *killed her*.

I do not intend to enter fully into the subject on this occasion. I shall merely call your attention to the latest written article, in the VETERINARY JOURNAL, on the subject. Mr. J. H. Cox, of the Army Veterinary Department, recently favoured the readers of that journal with his ideas on the subject, endeavouring to prove that Milk Fever is due to Thrombosis or Blood-clot. As this theory seems to me quite inconsistent with known facts, I take this opportunity of bringing some of Mr. Cox's views before you, in order to better prepare the subject for discussion, and will freely give my reasons for disputing this new theory. A well-known writer on medical science has said that the science of medicine, properly understood and truly taught, must depend for that truth on the proper classification of facts. If this idea were more attended to by writers on disease, I am certain they

would often arrive at similar conclusions, and approach nearer to truth. I would go a step further, and recommend that we ought, in seeking to find the true nature of a disease, to select those diseases which present symptoms almost similar, and make a comparison; then we might find that though differing in name, they were really only the same disease, differing only in manifestation or time of attack.

My object is to test Mr. Cox's theory of Milk Fever by the various known truths ascertained about the disease, some of which are found in Mr. Cox's paper.

1st truth. That the disease is seldom observed in the cow before the age of five years.

2nd. The disease is more frequently found to attack animals in a plethoric condition.

3rd Is more frequently observed to affect animals of the pure Ayrshire and Guernsey breeds; Shorthorns and Highland cattle are almost exempt.

4th. Is more fatal in pure-bred than cross-bred animals.

5th. Seldom occurs subsequent to three days after calving.

6th. Occurs before calving.

7th. Previous attacks favour its recurrence.

8th. More prevalent in the cow than any other class.

There are other facts, but with those I have named every practitioner must be more or less familiar. I do not expect to get a reason for every fact; it is not possible to satisfy every one in defending a theory, but I do expect that no true theory would contradict a well-known fact. Without going over all these statements in detail, I would inquire, Is it a fact that the cow is affected before calving? I have no hesitation in asserting—after twenty years' extensive practice amongst cattle of the pure Ayrshire breed—that I have attended to many such cases, and often assisted affected animals to expel the foetus. It is impossible that blood-clot could be the cause of the "fever" in those cases. Lest I have misinterpreted Mr. Cox's articles, I quote the following from his paper on the origin of this blood-clot. He says:—"It may occur after hæmorrhage from softening and breaking up of the clots, which form a temporary or permanent arrestation to the flow of blood from the divided ends of vessels, and which clots are afterwards taken up by the circulation." (Now mark that!) "This latter condition is, in my opinion, the one which gives rise to Parturient Apoplexy." Again, he says: "I feel persuaded that this morbid condition—Thrombosis—is alone the *prima causa* of the existent phenomena in Parturient Apoplexy." These are Mr. Cox's words. If we can prove that Milk Fever does occur before calving, before there is any hæmorrhage from the end of any blood-vessel, and before any clot has formed, it is impossible that Thrombosis can be the cause in such cases. If the disease can appear without "clot" before calving, it is just possible that Thrombosis has nothing to do with its *post-partum* occurrence. On page 408, vol. xvii., VETERINARY JOURNAL, Mr. Cox says:—"The attention of veterinarians is sometimes directed to another form of Apoplexy, which makes its appearance *ante* the birth of the offspring. This surely cannot be classified as Milk Fever; at the same time, it bears the closest analogy to results occasioned by Thrombosis." I expected that Mr. Cox would give a name to this new form. He did not attempt the task, no doubt fearing the effect on his theory.

Let us take another truth, viz., seldom observed in the cow before five years. Mr. Cox says this agrees with his theory, because in each gestation the uterine vessels become enlarged, with a tendency to increase in size at each successive period of utero-gestation. According to this reasoning, the older the cow the more liable to Thrombosis, and, therefore, to this disease. What are the facts? I find that from five to seven years old the cow is most

liable ; in other words, when the animal is at its full vigour—at maturity, when we hold every part is strongest and the milk most abundant, that is the time most dangerous. Is it true that an animal at two or three or four years can be as strong as one at maturity? if so, maturity has a wrong meaning. Blood-clot is as likely to form in a Highland cow after calving as in a fine-bred Ayrshire, and quite as readily in a poorly-fed cow as one in a plethoric condition. Mr. Cox has advanced what he calls an additional fact, and says it is generally conceded—I presume, by the profession—namely, that in all cases of parturition where an undue amount of hæmorrhage is present, the disease always makes its appearance. Now is this generally conceded? I, for one, say it is not true. Neither from my knowledge of the structure of the womb, nor from observation, can I assent to the statement. In those cases where we have difficult labour, there is any amount of blood and abundance of clot, but it happens that those are the cases which are not followed, except rarely, by Milk Fever. To put it plainly, I maintain that in cases of difficult parturition, where hæmorrhage is abundant, we have no Milk Fever.

With regard to predisposing causes, Mr. Cox say :—“ Pre-existing disease which militates against the proper performance of the circulation, such as tumours on the main vessels, heart disease, etc., may be said to be predisposing causes.” I ask any one present if he ever saw a case of Milk Fever and heart disease? Is it not contrary to fact? An animal with heart disease could not be in condition. How many cases have we found with pre-existing disease? The animals affected have always been in perfect health, feeding well and milking freely. But what think you of this remark, that the habit of “punching” a cow’s side to ascertain if she be in calf is a cause of Thrombosis, and therefore a cause of Milk Fever? I can scarcely conceive of a practical veterinary surgeon putting forth such a statement. Now, as to Mr. Cox’s treatment for clot, when fairly established he would bleed before the animal goes down, taking five or six quarts. I have great difficulty in accounting for this recommendation. What effect it would have on the blood-clot, in the way of removing it, seems involved in mystery. I think the cow would not live long. Mr. Cox’s great remedy is the cold wet pack ; and, as we have so often heard, it must be kept closely applied to the body, because the admission of air would destroy its effect. I have always looked upon this as a fine method to escape the taunts of a refractory employer, when the case did not recover. I say it is a fine loop-hole to get through ; but what is the fact, can it be done in one case out of twenty? I say it cannot. What is the use of a remedy if it is impracticable? Mr. Cox cites one case where the “pack” failed ; but he at once placed the blame on the attendant, for the animal, when he last saw her, raised her head. It is bad practice to blame an attendant for an impossibility. Mr. Cox makes matters still worse by his closing statement, that he did not really know the effect of his treatment, as he kept no statistics. I can tell him, as long ago I gave it a trial and gained no good results.

It appears to me sheer folly, for any one to account for a disease upon grounds not consistent with facts, and to recommend treatment not in accordance with the theory advanced. Anything Mr. Cox has advanced seems to shroud the disease in greater darkness. I would therefore recommend him to ponder over the eight facts given, and try to construct a new theory upon them, instead of endeavouring to make facts square with his ideas, which are remarkable for their thinness and absence of stability.

The CHAIRMAN next called upon Mr. Weir, Glasgow, to read his notes of a case of Leucorrhœa in a mare.

Mr. WEIR said : On the 4th of August, 1883, Messrs. Stewart and McDonald, of this city, bought an Irish bay mare for van work. I examined

and found her sound. On the morning of the 16th of August I was asked to see the mare. I found her blowing considerably ; temperature, $102\frac{2}{5}^{\circ}$; not feeding, and lungs slightly congested. On inquiry, I learned that the mare had performed a severe day's work on the previous day, which was cold and stormy, and that the mare had shivered a good deal after being stabled. I immediately caused her to be removed from the ten-stalled stable in which she was standing to a two-stalled one, that being the best shift I could make. Applied mustard to the chest, gave stimulating medicine, and had the pleasure of finding my patient much improved when I returned to see her in the afternoon. I saw her the following day, when I found her so well, that I considered it unnecessary to see her again, but as her sides were tender I ordered her to be kept in the stable for a week or so. She was worked for two half-days or so, when I was again called in on the 28th August. I found her extremely stiff, the hind legs held up alternately ; unwilling to move ; unable to trot, groaning on turning ; feeding a little. Pulse 65, full and round. Thinking Lumbago had resulted from the chill, I had mustard applied to the loins, to be followed by a sheepskin ; gave her Potass. bicarb. in half-ounce doses twice daily. This treatment was continued for a few days, but was of no avail ; the stiffness getting worse, the appetite more capricious, and appearances altogether more unfavourable. On the 3rd September in the stable I noticed the mare discharging as at the period œstrum, the external organs of generation considerably swollen, and the clitoris protruding. On expressing my surprise, the foreman said he had always intended informing me, that the mare had been discharging all along, from her first attack, but that the discharge was now more frequent and more abundant, and also that she urinated often in small quantities. The holding up of the hind feet still continued. The discharge was not so white as I have seen it from some old mares in which Leucorrhœa is chronic, but rather glairy and turbid, and of the consistence of raw white of egg. I now felt that I had fathomed the secret of the mare's illness, and changed my treatment at once. I continued the sheepskins for a day or two, and gave Ferri sulph. in two-dram doses twice daily. On the 5th September, with Mr. Dickson, I explored the generative canal. I found the walls of the vagina swollen and congested, the os uteri protruding much more than normal, tense, and painful. On withdrawing the hand, the mare expelled a quantity of mucus. I introduced a catheter into the uterus, and after well washing with cold water, forced in a solution of alum—two drams to a pint of water. This treatment was continued successfully for ten days, the catarrh steadily declined, the swelling of the vulva diminished, the appetite improved, the stiffness disappeared, and the lifting of the hind feet noticed less frequently. The back was in a sorry state, and I very much regret having used so strong external measures for two reasons : the mare was kept much longer in the stable than necessary, and the surface of the loins was permanently denuded of hair. The injections were employed at intervals for a few weeks. The mare being emaciated and the back tender, she was kept in till the 26th October, when she was put to work, and "has never looked over her shoulder since."

Regarding the etiology of this case, I think it may be summed up in a few words : We have here an animal on heat, the membranes of the genitals more vascular and irritable, performing a perfectly normal function ; the animal suffers from a severe chill, and as a result the vascularity of these membranes is further increased, leading to hyper-secretion from the genital mucous surfaces, or from the glands opening upon them.

A discussion followed the remarks of Mr. Pottie and Mr. Weir, in which Messrs. Lindsay, Brownlie, Peddie, Weir, and the Chairman took part.

Mr. POTTIE replied, and sketched briefly the line pursued by himself in

the treatment of Milk Fever. In reply to a question, he said that he had long been convinced that the cause of the disease is indigestion.

The usual vote of thanks brought a highly interesting meeting to a close.

J. MACQUEEN, *Secretary*.

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

(Continued from page 373.)

Naturally the question will be asked, "What is the remedy?" I can only suggest that a little more liberality be shown to students, and that their answers, when differing from the views of the examiners, should be accepted if they are based on authoritative teaching. In reference to the methods of examination—that the examination be partly written, that the number of examiners be increased when over a certain percentage of candidates appear, and, if it is thought necessary, that assessors be appointed; and I hope that the fashionable system of cavilling at the schools will fall into desuetude, and that all will unite together for the improvement of the profession. The schools have not, by some at least, been accredited with exercising a beneficial influence upon the onward progress of the profession. Let us see what their influence has been, but in order rightly to estimate it, it is necessary, in the first place, to inquire into the influence which technical education has exercised upon the progress and position of all professions, upon the arts, upon science; and I do not think I shall be charged with making a too sweeping declaration when I say, positively, that the advancement of all professions, of all arts, of all sciences, has been contemporaneous with, and in exact proportion to, the care which has been bestowed upon technical education, generally and particularly; and, what is more, that in proportion to the neglect of this form of education has been the decline in the particular art or science upon which that neglect has exercised its baneful influence. Nay, more, and of still greater importance, I will venture to assert that the advance of nations in civilisation and in refinement is always intimately linked with the amount of energy put forth in the improvement of the scientific and technical mind of the subject. Look where you will, gentlemen—to the sister science of medicine; to the intimately related art of agriculture; to the more exact sciences; to the arts; even to mechanics—and you will, if you choose to exercise your faculties, be able to perceive that all owe their present high position to the careful nourishment and encouragement of technical studies. Every now and again you will see some great industry declining, and the cry goes forth, Cannot it be resuscitated—revitalised? And then some Solomon comes forward and puts his finger upon the source of blight; points out that the work has been done in a slovenly and perfunctory fashion; that hands, not brains, have been the guiding force; that there has been no desire to improve, no desire to attain to eminence, no desire to introduce new ideas, or to step out of the beaten track. Then, and not till then, is there a revivification, a new start made on the road to perfection, a determination on all sides to excel; and assuredly the end, as a rule, is *success*.

Gentlemen, has it not been so in the case of our own profession? I challenge denial. And in proportion to the advancement of the schools has been the advance of our beloved and humanitarian calling. Look back over sixty or eighty years. See men treating the diseases of animals by rule of thumb, without the slightest aid from that higher intelligence which is alone gained by the exercise of the trained mental faculties; administering this medicine, or performing that operation, because their forefathers did it, or

because experience had taught them to do it ; without any higher notions, without any idea of the *modus operandi* by which the ends they desired from the application of their nostrums were to be gained. Look at the present position of medical and veterinary medical science. In each case honest endeavours are made to obtain some satisfactory knowledge of the influences exerted upon the system by the medicaments usually employed in the daily combat with disease. And if in many instances these endeavours terminate in failure, is that any reason why we should feel disheartened or deterred from prosecuting our inquiries? Nay! rather that we should persevere, knowing well that Nature sometimes reveals herself in marvellous and unlooked-for ways, and that very likely, just as we are beginning to despair, we have our feet on the threshold of success. Sceptics may scoff at our failures. We need not heed them. Scepticism is often begotten of ignorance ; scoffing of indolence and envy. And whence comes the impetus to these honest endeavours to understand the influence of the forces we daily employ? I answer, From the schools. Practice, unaided, did nothing for ages to lift medical science out of the slough of ignorance in which it wallowed, and would of itself have done nothing now ; but aided by the higher—may I say, the divine?—light of science, it has gone on progressing and approaching, day by day, nearer and nearer to perfection.

But while I say this, I am quite willing to acknowledge that the influence exerted by the schools has been, is now, and ever will be, in exact proportion to their own honest efforts in the direction of internal improvement, for so sure as the teacher lulls himself into a false self-complacency, into the idea that he knows all that can be known as to the particular branch of science which he professes to teach, so soon will the taught, with very few exceptions, follow in his steps ; and I am afraid, humiliating as it may be to me to make the confession, we have a good example of it in the case of our own schools. I refer to the marked difference which has existed in the past in the onward progress of the graduates of the oldest school, the London, and the newer school, the Edinburgh. And to what has this been owing, but to the desire for progress which existed in the mind of the leading spirit of the latter, to the indifference to progress which for so long a time prevailed in the former? In the one case the teacher was an enthusiast, and carried his mind far beyond the confines of the present ; in the other, I am afraid, the present was the “be-all and end-all” of existence. Professor Dick pressed into the service of his school the professors of sciences outside his own profession, and not only were histology and physiology taught as a part of the curriculum, but the students were urged to take advantage (and the opportunity was often afforded them for so doing by the various teachers) of the instruction given in pathology, in medicine, and in surgery, at the University of Edinburgh. Twenty years ago, all that was taught of histology or physiology in the London school could be taken down in about twenty pages of notes ; a little histology (not practical, but purely theoretical) from one, a smattering of physiology from another, was all that the student could get, and the only man who attempted to step out of the beaten path and to teach pathology in its more enlightened form was that veteran teacher, Professor Simonds, the notes of his lecture upon Inflammation alone occupying more pages of a note-book than those of all the histology and physiology combined. Medicine and surgery were taught, but the other subjects were merely glanced at ; and it is only right to add that in helminthology and cattle pathology, thanks also to Professor Simonds, the students of the south had a great advantage over their brethren of the north. This one example alone, gentlemen, is sufficient to show the value of technical education—the benign influence of the schools. But to come a little nearer home, let us see what even the profession has demanded, and is demanding, in the matter of education.

A few years ago there was no test examination in general knowledge, there was no botany taught, and no examination on that subject held, histology or physiology had no separate place, and the fringe only of pathology was touched. An educational test was instituted, and it has been made more searching as time has gone on ; botany, histology, physiology, and pathology have each their separate teachers, each their appointed examiners, and, although the pressure exercised by the profession on the Council had undoubtedly much to do with the inauguration of these changes, many of them had been introduced into the schools long before the profession spoke. Some of the teachers had a hand in putting the regulations in regard to them in force, and all have honestly laboured to give the student a thorough knowledge of the branch of science which they individually profess. And yet the teachers are by some cavillers practically charged with being obstructionists, and that, too, when they have only discharged the duty of protecting their own interests, and the interests of the schools with which they are connected. In some cases they have not been given credit for the practice even of common honesty, because they have not seen eye to eye with the profession, or with the profession's representatives. Certainly there have been instances of opposition, and in one case, perhaps, an unfortunate attempt to dish the profession, but in most instances the opposition has been honest, has been free from disinterested motives, and has been governed by a desire to prevent injustice to the few. In the matter of education the schools, with one exception (and that exception was justified, probably, for reasons which we know not of), have been unanimous in their desire to have a higher test instituted, provided always that it was made applicable to all alike, and I rejoice—and I am sure the representatives of other schools do so equally—that a satisfactory arrangement has been arrived at, and that in the future we shall have an independent and unbiased test applied equally to all intending students of the profession.

No ! gentlemen, the profession cannot do without the schools, any more than they can exist without the aid of the profession, and if the latter benefits by the former, it is a reversionary benefit, for the minds of the younger graduates who go out from them must re-act for good on the minds of their older brethren ; their brains are charged with the newer knowledge, and if their seniors are inclined to do so they may share it with them. The students of the present possess advantages infinitely beyond those possessed by the students of the past, the accumulated wisdom of ages is theirs ; your experience and mine, and the experience of the generations immediately preceding is theirs also, and it is for them to improve upon it, and to evolve from the convolutions of a more highly educated brain ideas which shall assist even their seniors in their life's work.

The President then invited discussion of the various subjects which had been brought before the meeting, particularly the election of members of Council, and directed attention to the fact that only Fellows will be eligible for election to the Council and Examining Board after 1886.

Professor WILLIAMS said : In the first place, I wish to make a few remarks about the election of councilmen. I quite agree with Professor Walley that, under the present charter, it is impossible to make any alteration ; but new charters are easily obtained. Looking to what will happen in maybe a few years, it strikes me that the charter will have to be repealed after 1886, otherwise the Royal College of Veterinary Surgeons will be at a deadlock, as it will be impossible to go on if none but Fellows can be members of Council and examiners. Where are the Fellows to come from ?

In the second place, the appointment of non-qualified persons as inspectors has been referred to. It lies with the Veterinary Inspector of the Privy Council to instruct the Privy Council as to whether they should appoint these

men or not. I am sorry to say that the veterinary officer of the Privy Council does not advise the appointment of qualified veterinary surgeons only. I think that it should be brought under his notice at the Privy Council table.

The subject of docking is one on which I hold a very strong opinion. I consider that veterinary surgeons ought not to be prevented from performing this operation. The operation certainly causes some little pain, but it is undoubtedly necessary. We have recently had four undocked horses under treatment for injuries to the tail, injuries which could not have occurred had the animals been docked.

Professor MCCALL, Glasgow, remarked that there was much valuable information in what Mr. Cunningham had said. He held that, seeing more students are taught in Scotland than in England, they were entitled to have a reasonable representation in the Council. At all events, they should have half as large a representation of examiners as their English friends had. Such not being the case, justice cannot be done either to England or Ireland. He was of opinion that there should be only one Examining Board and one Council for the profession. He had always entertained the opinion that it would be a mistake to have a Scottish charter and two licensing bodies. He had not the slightest doubt that if they went in for a Scottish charter they would obtain it, but he held that it was not necessary.

Mr. POTTIE, Paisley, said it was represented to them by a gentleman from the Royal College of Veterinary Surgeons that if the Highland and Agricultural Society's examinations were abolished, they would receive a better representation, but they had no prospect of this under the present circumstances. He was in favour of getting a new charter, unless their grievances were redressed. He considered the regulation whereby only Fellows will be eligible for election to the Council after 1886 to be a most objectionable arrangement.

Mr. SPREULL, Dundee, President of the Scottish Central Association, thought that they would not be properly represented until the election was carried out on Mr. Cunningham's plan. He approved of that scheme entirely, and thought that they ought to lose no opportunity of advancing it.

Mr. CAMPBELL, President of the West of Scotland Veterinary Medical Association, said he had much pleasure in supporting the views expressed by Mr. Cunningham. He thought the constituency system of election was greatly wanted, particularly for Scotland.

Mr. MCGREGOR, President of the North of England Association, expressed his approval of the constituency plan of election. He said that they in the North of England felt that they were not properly represented in the Council.

Mr. T. GREAVES, Manchester, said that he was one of the members of Council at the time the memorial was presented ; that it was met in a friendly and liberal frame of mind ; but that they had no power to grant the prayer of the memorial. It would be necessary to get a new charter in order to change the mode of election. He, for one, would vote for that, as he felt that there ought to be a better representation in the Council.

Mr. CUNNINGHAM said it was most important that they should get men to go to the Council who are real friends of Scotland. He proposed they should begin by trying to get the Principals of the three Scotch colleges elected. If they could get about 400 votes for each candidate, their election would be certain. He would telegraph to the secretary to have the nominations of those three gentlemen entered at once.

Mr. CONNACHIE said : What we want is that the Scotch practitioners shall stick together, and try to get the three Principals into the Council this year. If any of us in Scotland demur to anything that is brought before the

Council, we are immediately attacked with such epithets as "narrow-minded," and get abused in the veterinary journals by anonymous nonentities.

Mr. H. HUNTER, Newcastle, said that the North of England was entirely unrepresented in the Council. He thought the Scotch societies should unite with the North of England societies in their efforts to return their nominees.

Mr. RUTHERFORD thought that the three Scotch societies ought to amalgamate with the North of England and Border counties, not only for political purposes, but also to support each other socially and professionally. He begged to second the motion that Principals Williams, Walley, and McCall be nominated to represent Scotland in the Council. He held that the Principals of schools, in virtue of their position, should be members of Council, and need no election.

Mr. CAMERON, Berwick-on-Tweed, thought that they ought to assist the North of England Society in returning their candidate. He agreed with what had been said on the subject of docking. He suggested that the North of Scotland Society, which had been asleep for a long time, should be roused up and asked for its assistance.

Mr. THOMSON, Aberdeen, treasurer of the North of Scotland Society, said he would do his best to advance the business by getting others to take an interest in it.

Mr. A. ROBINSON, Greenock, endorsed what had been said as to electing the Principals of the schools. He agreed that they ought to be in Council in virtue of their office.

Mr. PHILLIPS thought that Scotland and the northern counties of England were not represented as they ought to be. He approved of the amalgamation of the Scottish and North of England societies. He hoped to see the day when the Principals of schools would not require to be elected, but would take their places in Council in ordinary course.

Principal WILLIAMS approved of the amalgamation scheme. He thought the time had arrived when every person aspiring to be a member of the Council should have a political creed.

Professor MCQUEEN thought that Mr. Cunningham's memorial should be brought up at every annual meeting of the societies, in order to keep the scheme continually before the members of the profession.

Mr. CUNNINGHAM was of opinion that they should go out from the Royal College, and get a diploma-granting body of their own, as he thought they would never get more justice from that college.

The PRESIDENT said he thought the matter had been well thrashed out, and the time had come when the motions should be put to the meeting. The first motion, proposed by Mr. Cunningham, and seconded by Mr. Rutherford, was that Principals Williams, McCall, and Walley should be nominated for the forthcoming election to Council.

The motion was unanimously agreed to.

The second motion, proposed by Mr. Rutherford, and seconded by Mr. Spreull, was that the three Scottish societies should amalgamate with the North of England Association, and assist in carrying their nominee.

The motion was agreed to.

After some conversation it was agreed that the secretaries of associations should form a committee to carry out the objects in view.

Mr. SMART, hon. secretary of the North of England Association, said that there were between 400 and 500 practitioners last year in Scotland and the North of England, and he believed that if they worked together they could carry three or four men—that was, if they worked for them and no one else.

The PRESIDENT asked if each society was to bear an equal part of the expense that might be incurred.

Mr. MULVEY said the North of England Association were prepared to bear their share of the expense.

It was understood that the associations would bear an equal part of the expense.

A vote of thanks was given to the Chairman, and the proceedings terminated.

Immediately after the business meeting upwards of seventy members and others dined in the Waterloo Hotel. Principal Walley occupied the chair, while Mr. Spreull, Dundee, and Mr. Campbell, Kirkcudbright, were croupiers. The usual loyal and patriotic toasts having been honoured, Mr. SPREULL proposed the toast of "The Royal College of Veterinary Surgeons," which was responded to by Mr. GREAVES, who said he should be glad to see a greater number of Scotsmen in the Council than there were at present. The matter rested in their own hands, and they might obtain a greater share in the representation of the Council if they would only shake off their apathy and agitate as the men of Lancashire had done twenty years ago. The remaining toasts were, "The Sister Profession," proposed by Professor MCQUEEN, and responded to by Dr. HUNTER; "The Highland and Agricultural Society of Scotland," proposed by Mr. BORTHWICK, and replied to by Mr. CONNACHIE; "The Lord Provost, Magistrates, and Town Council," proposed by Principal MCCALL, and replied to by Bailie ANDERSON; "The Scottish and kindred Veterinary Medical Associations," proposed by Principal WILLIAMS, and replied to by the presidents of the different associations; "The Benevolent and Mutual Defence Association," proposed by Mr. POTTIE, and replied to by Mr. GREAVES; "The Board of Examiners," proposed by Mr. CUNNINGHAM, and replied to by Mr. A. ROBINSON; "The Schools," proposed by Bailie ANDERSON, and replied to by the Principals; and "The Visitors."

T. H. LEWIS, *Hon. Sec.,*
Scottish Metropolitan Veterinary Medical Society.

EXAMINATIONS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

AT the meetings of the Court of Examiners of the R.C.V.S., held on the 31st March and April 1st and 2nd, the following students from the Royal Veterinary College were admitted members of the profession :—

Mr. A. Barrett ...	...	...	Totnes, Devon.
„ S. Cliffe ...	...	...	Brighouse, Yorks.
„ T. G. Hewitt ...	...	...	Notting Hill, W.
„ L. Burghope ...	...	...	Bridgwater.
„ W. Brown ...	...	...	Holloway.
„ C. W. Heinemann...	...	...	Mile End.
„ F. Bazley ...	...	...	Frome.
„ J. Walker ...	...	...	Torquay.
„ G. H. Evans ...	...	...	Highgate, N.
„ W. B. Whigham ...	...	...	Maynooth, Ireland.
„ W. Drewitt...	...	...	Gloucester.
„ J. Hammond ...	...	...	East Dereham.
„ A. C. French ...	...	...	London.
„ H. Pemberton ...	...	...	Handsworth.
„ W. H. Taylor ...	...	...	Nottingham.
„ E. Taylor ...	...	...	Derby.
„ W. Willis ...	...	...	Bishopwearmouth.
„ G. H. Goulding ...	...	...	Cornwall.

The following students passed their "Second Examination" on the 3rd, 4th, 5th, 7th, and 8th April, 1884 :—

Mr. H. A. Spurgin.	Mr. A. H. Beeby.
„ J. B. Exley.	„ E. Ebbetts.
„ C. W. Marshall.	„ J. Blakeway.
„ B. Lacey.	„ *H. Buckingham.
„ *H. G. Rogers.	„ C. Winteringham.
„ *A. Marriott.	„ *F. A. Simpkin.
„ M. G. Byerley.	„ H. B. Maples.
„ A. Cawdle.	„ R. A. Lord.
„ W. Ascott.	„ *W. James.
„ A. Brassington.	„ *W. Littlewood.
„ W. R. Walker.	„ A. E. Shorten.
„ W. Revill.	„ *W. E. Cawdle.
„ *H. B. Arnald.	„ P. D. Langley.
„ F. Wright.	„ H. J. Dawes.
„ *J. T. Vickery.	„ E. R. Smythe.
„ *G. E. King.	

The following students passed their "First Examination" on the 10th April :—

*Mr. E. S. Gubbin.	*Mr. L. P. Rees.
„ H. A. Kennedy.	„ *W. E. Dain.
„ C. A. Johns.	

At the meetings of the Scottish Section of the Court of Examiners, held in Edinburgh and Glasgow on and between the 12th and 29th of April, the following gentlemen passed the final examination, and were admitted members of the profession :—

New Veterinary College (Edinburgh.)

Mr. Alfred Joseph Haslam	...	Manchester.
„ Alexander Lawson	...	Dunning, Perthshire.
„ James Platt	...	Southport, Lancashire.
„ Alexander F. Durkie	...	Dundee.
„ Clement Dyson	...	York.
„ James Ashton	...	Bolton, Lancashire.
„ Joseph Purdy	...	Belfast.
„ Joseph Forgham	...	Holmes Chapel, Cheshire.
„ James Borthwick	...	Kirkliston, Edinburgh.
„ John T. Crosby	...	Whitby, Yorkshire.
„ William Lothian	...	Duns, Berwickshire.
„ Joseph Faulkner	...	Rochdale, Lancashire.
„ Alfred Conisbee	...	Great Bookham, Surrey.
„ Alexander Lennox	...	Maybole, Ayrshire.
„ A. G. Darwell	...	Leigh, Lancashire.

Dick Veterinary College (Edinburgh.)

Mr. Thomas Woof	...	Catford, Kent.
„ Charles Treble Lang	...	Scarborough.
„ Mr. Joseph Barclay	...	Dunfermline, Fifeshire.
„ William Kent	...	Boston, Lincolnshire.
„ Henry C. Fergusson	...	Stanley, Perthshire.
„ George Ellison	...	Chorley, Lancashire.
„ William R. Davison	...	Port Glenone, Co. Antrim.
„ Frank G. Ashley	...	Litcham, Norfolk.

Mr. Frederick Airey	...	...	Lewisham, Kent.
„ Charles Cowie	...	...	Banff.
„ Frederick P. Bennett	...	...	Banbury, Oxford.
„ Thomas Butcher	...	...	Salop.
„ John E. Tudor	...	...	South Shields.
„ William Jeeves	...	...	Scarborough.

Glasgow Veterinary College.

Mr. Robert McNair	...	...	Helensburgh, Dumbartonshire.
„ Samuel Hirst	...	...	Barnet, Herts.
„ Thomas McCauley	...	...	Belfast.
„ Robert Weir	...	...	Islay, Argyleshire.
„ Gregor McGregor	...	...	Kippen, Stirlingshire.
„ Joseph Larkin	...	...	Carlingford, Co. Louth.
„ William Fraser	...	...	Largs, Ayrshire.

The following passed their “Second Examination” :—

Glasgow Veterinary College.

Mr. W. Ferguson.	Mr. D. M. Gray.
„ *E. Sayer.	„ *William Hodgson.
„ D. Weir.	„ N. B. Green.
„ A. Reid.	„ *W. Ward.
„ H. O. Richard.	„ A. Newlands.
„ W. Carruthers.	„ J. A. Cunningham.
„ R. S. Mitchell.	„ T. F. Renshaw.
„ *John McKinna.	„ A. Marshall.
„ D. McIntyre.	„ J. Ward.
„ T. Dobie.	„ *C. J. Doyle.
„ D. J. McCambridge.	

New Veterinary College (Edinburgh.)

Mr. A. W. Middlehurst.	Mr. S. Jackson.
„ A. G. Corner.	„ R. W. Dawtrey.
„ B. W. Bloomfield.	„ J. Hodgman.
„ W. Harris.	„ T. Peacocke.
„ C. Aggie.	„ C. Galloway.
„ J. Bell.	„ *E. G. Lawson.
„ H. Wilkinson.	„ *W. Bannatyne.
„ T. Anderson.	„ W. Allan.
„ T. Watson.	„ *R. Porch.
„ W. Noar.	„ A. McArthur.
„ T. H. Secker.	„ A. Kay.
„ *C. Drabble.	„ *S. Chambers.
„ *O. G. Barrow.	„ G. H. Simpson.
„ T. Shepherd.	„ *R. Rimmer.
„ R. Price.	„ *J. A. Robinson.
„ T. Duckworth.	„ †J. Moore.
„ F. W. Somers.	„ *W. D. Connachie.
„ W. Fenwick.	„ H. Higgs.

Dick Veterinary College (Edinburgh.)

Mr. A. W. Davies.	*Mr. J. W. Whitecross.
„ J. Barr.	„ P. Snaith.
„ *G. Kinnell.	„ R. E. Thomas.
„ J. Armstrong.	„ F. Tonar.
„ *J. S. Lloyd.	„ A. Levie.

Mr. J. Troughear.
 „ *H. Rickell.
 „ R. Reid.
 „ J. Hawke.

Mr. G. McLaren.
 „ J. E. Gemmell
 „ F. Brown.
 „ J. F. Soga.

The following passed their final examination :—

Glasgow Veterinary College.

Mr. M. F. Giblin.

New Veterinary College (Edinburgh.)

Mr. C. Blackhurst.
 „ A. Reah.
 „ *C. Weatherall.

Mr. G. Finlay.
 „ Mr. T. S. Atkinson.
 „ †T. Bowhill.

Dick Veterinary College (Edinburgh.)

Mr. R. T. Tibaldi.
 „ G. Pearson.

Mr. Alex. Young.
 „ J. King.

* Marked thus passed with Great Credit.

† Marked thus passed with Very Great Credit.

R. RUTHERFORD, M.R.C.V.S.,
Secretary Board of Examiners (Scottish Section).

GLASGOW VETERINARY COLLEGE.

THE winter session of this institution terminated on 11th April, and on the 14th, 15th, and 28th the oral examinations of the Royal College of Veterinary Surgeons were conducted within the museum of the College. The candidates for diploma were also subjected to a rigid practical examination on horses, cattle, and sheep, selected and brought to the College for that purpose. The Board of Examiners included Mr. George Fleming, LL.D. ; Mr. J. Roalfe Cox, F.R.C.V.S. ; Professor Duguid, F.R.C.V.S. ; Professor Pritchard, M.R.C.V.S. ; Mr. J. Vaughan, F.R.V.C.S. ; and Mr. Finlay Dun, F.R.C.V.S., London ; Mr. W. A. Taylor, F.R.C.V.S., Manchester ; Mr. George A. Banham, F.R.C.V.S., Cambridge ; Mr. W. B. Walters, F.R.C.V.S., Army Veterinary Department ; Mr. Archibald Robinson, M.R.C.V.S., Greenock ; and Mr. Rutherford, M.R.C.V.S., Edinburgh. The following gentlemen were also present as *ex officio* members :—Principal M'Call, Professors Cooke, Limont, Macqueen, and Renfrew, Glasgow Veterinary College.

Eleven gentlemen presented themselves for the diplomas of the Royal College of Veterinary Surgeons, and of this number the following passed :—

Mr. Samuel Hirst, Barnet, Herts ; Mr. Robert M'Nair, Helensburgh ; Mr. Joseph Larkin, Carlingford ; Mr. Gregor M'Gregor, Kippen ; Mr. Robert Weir, Island of Coll ; Mr. William Frazer, Largs ; Mr. Thomas M'Cauley, Belfast.

Twenty-four students presented themselves for the second professional examination, of which number twenty-one passed, viz. :—

Mr. William Ferguson, Greenock ; Mr. David Weir, Ochiltree ; Mr. Robert S. Mitchell, Islay ; Mr. John M'Kinna, New Galloway ; Mr. Daniel M. Gray, Glasgow ; Mr. Edwin Sayer, Rainham, Kent ; Mr. Hugh O. Richard, Merioneth ; Mr. Donald Macintyre, Loch Awe ; Mr. Andrew Reid, Tarbolton ; Mr. William Hodgson, Cumberland ; Mr. D. J. M'Cambridge, County Antrim ; Mr. Thomas Dobie, Birkenhead ; Mr. William Carruthers, Lesmahagow ; Mr. A. B. Green, Irvine ; Mr. Alexander Marshall, Glasgow ; Mr. William and Mr. Joseph Ward, Manchester ; Mr. Thomas F. Renehan,

County Kilkenny ; Mr. Andrew Newlands, Glasgow ; Mr. Charles J. Doyle, County Dublin ; and Mr. John A. Cunningham, Glasgow.

Mr. Thomas Giblin, Glasgow, was also examined for the first professional examination, and was successful in passing. Medals granted by the Highland and Agricultural Society of Scotland, the late Professor Allen Thomson, of London ; Mr. Robert Walker, of Lethamhill, and Principal M'Call, and certificates of merit by the College were awarded in the different branches of study as follows :—

Horse Pathology (written examination).—Gold medal (Principal M'Call), Mr. Samuel Hirst ; first-class certificates, Messrs. O'Connor, Larkin, and M'Nair ; second-class certificate, Mr. Weir.

Cattle Pathology (written examination).—Gold medal (Principal M'Call), Mr. Robert M'Nair ; first-class certificates, Messrs. Hirst, Larkin, Houston, and O'Connor ; second-class certificates, Messrs. Weir and M'Cauley.

Practical Examination of Horses as to soundness, age, manipulation, etc.—Gold medal (Principal M'Call), Mr. Joseph Larkin.

Practical Examination of cattle and sheep as to age, operations, etc.—Gold medal (Mr. Robert Walker), Mr. Robert M'Nair.

Histology and Physiology.—Silver medal (Highland and Agricultural Society of Scotland), Mr. John M'Kinna ; first-class certificate, Mr. John A. Cunningham ; second-class certificates, Messrs. Carruthers, Sayer, and Joseph Ward.

Anatomy (special and comparative).—Silver Medal (Highland and Agricultural Society of Scotland), Mr. William Ward ; first-class certificates, Messrs. Cunningham and Sayer ; second-class certificates, Messrs. M'Kinna, Weir, and Richards.

Best oral examination on anatomy, physiology, and histology.—Gold medal (Professor Allen Thomson), Mr. Edwin Sayer.

At the close of the examinations the President of the Royal College of Veterinary Surgeons (Mr. George Fleming) intimated that Messrs. Sayer, M'Kinna, Hodgson, William Ward, and Doyle had passed with great credit.

MONTREAL VETERINARY COLLEGE.

THE final examinations of the seventeenth session of the Montreal Veterinary College were held on March 27th, when the following gentlemen passed in the subjects named :—

In Botany, Prof. Penhallow, McGill College, the examiner—E. W. Hoare, C. C. Dyer, and Geo. S. Baker.

In Physics, Prof. Girdwood, McGill College, examiner—Garland, Whyte, Baker, Dyer.

In Histology, Prof. Osler, McGill College, examiner—Baker, Dyer, Garland, and White.

In Chemistry, Prof. Girdwood, McGill College, examiner—E. W. Hoare, C. G. Lamb, W. F. Scott, John Magor, jr., C. S. Garland, A. A. Keys, E. Crundall, Wm. B. Abbe.

In Physiology, Prof. Osler, McGill College, examiner—E. W. Hoare, A. E. Cross, C. G. Lamb, John Magor, jr., W. F. Scott, M. O. Blanchard, A. A. Keys, E. Crundall.

In Materia Medica, Dr. James Bell, examiner—E. W. Hoare, W. H. Klock, C. G. Lamb, C. S. Garland, E. Crundall, W. F. Scott, A. A. Keys, John Magor, jr.

In Anatomy, Mr. M. C. Baker, V.S., examiner—C. McEachran, W. H. Klock, E. Crundall, A. E. Cross, J. A. Duncan, M. G. Blanchard, E. P. Ball, A. W. Mears.

In Practice of Medicine and Surgery and General Pathology, Principal

McEachran, F.R.C.V.S., examiner—J. A. Duncan, W. H. Klock, M. G. Blanchard, A. E. Cross, E. Crundall, C. McEachran, E. P. Ball, A. W. Mears.

In the French classes the following students passed the examinations :—

In Entozoa, Prof. Osler and Mr. Clement, V.S., examiners—Blanchard, McEachran, Ball, and Mears.

In Anatomy, Mr. Daubigny, V.S., examiner—C. LeMorin, Jos. Labelle.

In Pathology and Practice of Medicine and Surgery, Mr. Daubigny, V.S., examiner—Jos. Labelle, C. LeMorin.

In Materia Medica, Mr. Daubigny, V.S., examiner—C. LeMorin, Jos. Labelle.

Oral Examinations.

The final oral examinations were held by the board of examiners appointed by the Council of Agriculture on March 27th, when the following students passed the examinations in botany, histology, physics, chemistry, physiology, materia medica, anatomy, practice of medicine and surgery and general pathology, and were found fully competent to practise as veterinary surgeons and granted the diploma of the College, namely, Messrs. Ball, Bancroft, Blanchard, Cross, Crundall, Drouin, Duncan, Klock, Labelle, Mears, Morin, and McEachran.

The presentation of prizes and award of diplomas took place in the afternoon. Mr. S. N. Blackwood, of Sheffield, presided and, on behalf of the Council of Agriculture, presented the following diplomas and prizes :—

In the English class, Seniors, best general examination, prize, a silver medal, the gift of the Council of Agriculture, won by J. A. Duncan.

Pathology and Practice of Medicine and Surgery, 1st prize, book, won by J. A. Duncan ; 2nd prize, book, won by W. H. Klock.

Anatomy—Prize, medal, won by Chas. McEachran.

Entozoa—Prize, medal, the gift of Dr. Osler, won by M. G. Blanchard.

Materia Medica—Prize, book, won by E. W. Hoare.

Juniors—Anatomy prize, book, won by C. G. Lamb.

Pathology prize, book, won by E. W. Hoare.

French class, Seniors—Best general examination, a silver medal, the gift of the Council of Agriculture, won by C. L. Morin.

Pathology, prize, instrument, won by J. Labelle.

Anatomy, prize, book, won by C. L. Morin.

Juniors—Best general examination, prize, instrument, won by J. Turcott.

Freshmen—Best general examination, prize, instrument, won by Louis Lorrain.

At a meeting of the Montreal Veterinary Association held subsequently, Mr. M. C. Baker, V.S., in the chair, the following gentlemen were granted the diploma of honorary fellowship of the association : Messrs. Ball, Blanchard, Cross, Crundall, Mears, McEachran, Drouin, Morin, and Labelle.

ONTARIO VETERINARY COLLEGE.

THE close of the session 1883-84 of the Ontario Veterinary College took place on March 27th, when a convocation of students, graduates, and examiners was held in the assembly-room, where the results of the year's work was made known, and the successful prizemen presented with their trophies. Among those present were :—His Worship Mayor Boswell, Mr. Wade, secretary of the Agricultural and Arts Association ; Prof. Smith, Dr. Duncan, Dr. Barrett, Dr. Thorburn, and Examiners Wilson and O'Neill, of London ; Lloyd, Newmarket ; Chas. Elliott, St. Catharine's ; W. Cowan, Galt, and

A. O. F. Coleman, Ottawa. After the opening exercises, Dr. Duncan announced the list of medallist prizemen graduates for the year.

The gold medal presented by the Ontario Veterinary Medical Association for best general examination was taken by Mr. J. F. Reid, of Belleville.

The complete list is as follows :—

Graduates.

S. G. Anderson, Lambton ; Robt. E. Ardeil, London ; Chas. M. Bailey, Haver Hill, Mass., U.S. ; G. G. Blank, Allentown, Penn., U.S. ; Geo. W. Butler, Stirling ; Daniel W. Burt, Hillsburg ; T. Bradley, Gananoque ; M. L. Bougham, West Lebanon, Ohio, U.S. ; James Brown, Guelph ; Sam. C. Bogart, Chatham ; James W. Brodie, Almira, Ont. ; James Cruickshank, Heathcote ; Ed. Courtenay, Ashland, Ky. ; P. C. Dodge, Creston, Ill., U.S. ; D. C. DeWitt, La Fayette, Ind. ; L. C. DeCow, Thamesville, Ont. ; Wm. W. Dickey, Newtonville ; W. G. Dodds, Orangeville ; Charles Elliot, Madisonburg, Ohio, U.S. ; Albert Eisenman, Louisville, Kentucky, U.S. ; Orr Graham, Port Perry ; M. Green, Cesselton, Dakota, U.S. ; Sol. K. Hoffman, Shoemakersville, Penn., U.S. ; John Hackett, Vittoria ; Adam Harthill, Louisville, Ky., U.S. ; Fred. Hewitt, Maple ; L. B. Irons, Linesville, Penn., U.S. ; W. R. Kincaid, London ; Robt. H. Kestell, Simcoe ; Niles Livingston, Jura ; W. R. Laidelaw, Aylmer ; R. M. Mason, Mono Mills ; W. Mitchell, Mono ; Sam. Murphy, Port Hope ; Duncan McArthur, Ailsa Craig ; Wm. Machan, Mitchell ; Ed. Ming, Belleville ; William Nicol, Beeton ; John F. Ormsby, Ancaster ; Frank Parker, Maidstone ; N. E. Patterson, Bellantel ; J. F. Reid, Belleville ; H. E. Rowell, Albion, N.Y. ; Henry G. Reed, Georgetown ; Albert Reycraft, Highgate ; John Sutcliffe, Brooklyn, N.Y. ; E. A. Steinburg, Frankford ; Wm. Stork, Brampton ; E. Sharrad, Stonfullo ; N. Silverthorne, Somerville ; Andrew Sparham, Caledonia ; Alfred Tennant, Birr ; L. G. Tiffany, Jacksonville, Ill., U.S. ; Charles Thompson, Zephyrs ; John Wende, Mill Grove, N.Y. ; S. E. Weber, Greenlane, Penn., U.S. ; John Wilson, James Wilson, Wingham ; Harry Waldron, Ayr.

Prize and Honour List—Seniors.

Pathology.—E. A. Steinburg, Frankford, Ontario, first prize, silver medal ; G. W. Butler, Stirling, second prize ; L. C. Tiffany, Jacksonville, Illinois, third prize. Honours—R. E. Ardeil, London ; G. G. Blank, Allentown, Penn. ; C. M. Bailey, Haverhill, Mass. ; T. H. Bradley, Gananoque, Ont. ; Ed. Courtenay, Ashland, Kentucky ; P. C. Dodge, Creston, Illinois ; D. C. De Witt, La Fayette, Ind. ; A. Eisenman, Louisville, Kentucky ; Adam Harthill, Louisville ; S. K. Hoffman, Shoemakersville, Penn. ; R. M. Mason, Mono Mills, Ont. ; Wm. Mitchell, Mono ; D. McArthur, Ailsa Craig ; J. Y. Ormsby, Ancaster, Ont. ; J. F. Reid, Belleville ; H. G. Reed, Georgetown ; H. E. Rowell, Albion, N.Y. ; H. Waldron, Ayr, Ont. ; Jas. Wilson, Wingham ; John Wilson, Wingham.

Anatomy.—Silver medal (from Agricultural and Arts Association) : G. W. Butler, Stirling ; second, J. F. Reid, Belleville, and L. C. Tiffany, Jacksonville, Ill. (equal) ; third, E. A. Steinburg, Frankford. Honours—Jas. W. Brodie, Almira, Ont. ; Ed. Courtenay, Ashland, Ky. ; P. C. Dodge, Creston, Ill. ; Orr Graham, Port Perry ; S. K. Hoffman, Shoemakersville, Penn. ; John Hackett, Vittoria, Ont. ; Adam Harthill, Louisville, Ky. ; W. R. Kincaid, London, Ont. ; J. T. Ormsby, Ancaster, Ont. ; Frank Parker, Maidstone ; Albert Reycraft, Highgate ; H. G. Reed, Georgetown ; H. E. Rowell, Albion, N.Y. ; W. W. Stork, Brampton ; John Sutcliffe, Brooklyn, N.Y. ; Andrew Sparham, Caledonia, Ont. ; James Wilson, Wingham ; John Wilson, Wingham ; H. Waldron, Ayr.

Entozoa.—First prize, Ed. Courtenay, Ashland, Kentucky. Honours—G. G. Blank, Allentown, Penn.; G. W. Butler, Stirling, Ont.; Fred. Hewitt, Maple, Ont.; R. M. Mason, Mono Mills; D. McArthur, Ailsa Craig; J. T. Ormsby, Ancaster; Frank Parker, Maidstone; J. F. Reid, Belleville; H. G. Reed, Georgetown; E. A. Steinburg, Frankford; L. C. Tiffany, Jacksonville, Illinois.

Microscopy.—First prize, G. G. Blank, Allentown, Penn. Honours—R. E. Ardeil, London, Ont.; Frank Parker, Maidstone; H. G. Reed, Georgetown; W. W. Stork, Brampton; L. C. Tiffany, Jacksonville, Illinois; John Wilson, Wingham; James Wilson, Wingham.

Physiology.—Silver medal, G. W. Butler, Stirling, Ont.; second prize, D. McArthur, Ailsa Craig; third prize, H. Waldron, Ayr. Honours—W. Silverthorne, Somerville; E. A. Steinberg, Frankford; J. T. Reid, Belleville; H. G. Reed, Georgetown; Jas. Wilson, Wingham; John Sutcliffe, Brooklyn, N.Y.; L. C. Tiffany, Jacksonville, Illinois; D. W. Burt, Hillsburgh, Ont.; G. G. Blank, Allentown, Penn.; W. R. Kincaid, London; Ed. Courtenay, Ashland, Kentucky; C. E. Thomson, Zephyr, Ont.; Frank Parker, Maidstone.

Chemistry.—First prize, D. McArthur, Ailsa Craig.

Anatomical preparation.—Silver medal, W. Waldron, Ayr, Ont. (work being of unusual excellence); second prize, Jas. Wilson, Wingham; third prize, John Wilson, Wingham.

Materia Medica.—First prize, J. F. Reid, Belleville; second prize, Ed. Courtenay, Ashland, Kentucky; third prize, L. C. Tiffany, Jacksonville, Illinois. Honours—G. W. Butler, Stirling, Ont.; C. M. Bailey, Haverhill, Mass.; J. T. Ormsby, Ancaster, Ont.; W. W. Stork, Brampton, Ont.; H. G. Reed, Georgetown.

Breeding and Managing of Stock.—First prize, 20 dols., in books (by Hon. Commissioner of Agriculture), J. F. Ormsby, Ancaster, Ont.; second prize, 15 dols., in books (council of Agricultural and Arts Association), G. W. Butler, Stirling; third prize, 10 dols. in books (Agricultural and Arts Association), N. Silverthorne, Somerville; gold medal, for best general examination (presented by the Ontario Veterinary Medical Association), J. F. Reid, Belleville. Honours—G. G. Blank, Allentown, Penn.; G. W. Butler, Stirling, Ont.; Adam Harthill, Louisville, Kentucky; H. G. Reed, Georgetown; E. A. Steinburg, Frankford; James Wilson, Wingham.

Juniors.

Anatomy.—Silver medal (from Agricultural and Arts Association), Tate S. Butler; second prize, Joseph N. Medill; third prize, Chas. H. Pierce. Honours—Chas. Burger, R. Grant, Fred. Hall, J. Ireland, D. C. McLean, J. Miller, G. Standish, E. G. Sterner, L. Thompson.

Pathology.—First prize, T. S. Butler; second, E. G. Sterner; third, Louis A. Thompson. Honours—C. E. Burger, H. C. Carpenter, P. J. Gallagher, R. Grant, F. Hall, Albert Harthill, D. W. Hess, J. Ireland, D. E. McLean, G. McGillivray, C. E. Munn, R. J. Michener, F. Matthews, C. H. Pierce, T. E. Queen, T. W. Scott, George Standish, G. F. Snider, Wm. Stevens, W. J. Wilson.

Physiology.—First prize, E. J. Sterner; second, D. E. McLean; third, T. S. Butler. Honours—C. E. Munn, J. N. Medill, J. Ireland, L. H. Thompson, P. Gallagher, W. J. Wilson.

Chemistry.—First prize, D. E. McLean.

The following persons passed the primary examination in anatomy:—Albert Curtis, Simcoe; Eli Chrisman, Sharon Centre, Ohio; E. D. Hayden, Syracuse; George Rennie, Huntingdon, Que.; J. E. Campbell, Alliance, O.; D. Seltzer, Watkins, N.Y.; F. O'Brien, Lasker, Ont.

Addresses.

On the conclusion of the prize-distribution, Mayor Boswell addressed a few words to the students. He said it afforded him very much pleasure to observe the friendly spirit, as well as keen interest, which they evinced in the afternoon's proceedings. He hoped that one and all would go on with their studies in the profession they had chosen, and secure, if possible, even higher results than the present. It was most satisfactory to note that so many young men were taking an interest in the treatment of animal diseases. It was most creditable to the college that out of the roll list seventeen had come across from the States. They were heartily welcomed, and it was to be hoped that students would continue to come from across the line. It was a salient mark of Prof. Smith's popularity in the States that he had a circle of friends among his old students in almost every district he entered. He congratulated the college on its success and wished it every prosperity.

Dr. COLEMAN, of Ottawa, rose to move a vote of thanks to Prof. Buckland, to whose untiring efforts was in no small measure due the successful working of the college.

Prof. SMITH heartily seconded the motion. He believed that no one had more right to the thanks of the college, and the students, particularly, than Prof. Buckland.

The motion was received by the convocation with warm applause.

Prof. BUCKLAND, in reply, made a few pointed remarks, in the course of which he drew attention to the coincidence which existed between the veterinary art and agriculture. He advised the students to follow up their studies and seek for the higher and more complete development of their profession.

The convocation then adjourned.

Army Veterinary Department.

Gazette, May 6th.

VETERINARY Surgeon (First Class) H. Sewell to be placed on retired pay, with the honorary rank of Inspecting Veterinary Surgeon; Veterinary Surgeon on probation J. T. Twiss to be Veterinary Surgeon; F. Joslen, gentleman, to be Veterinary Surgeon on probation.

It is very satisfactory to observe that Major-General Sir G. Graham, in his despatches describing the recent operations in the Soudan, states that "The duties of the Veterinary Department were satisfactorily carried on by Principal Veterinary Surgeon Clayton, and those under him."

A supplement to the *Gazette* of May 21st, contains the honours and rewards bestowed upon the officers serving in the late operations in the Soudan, and among these it is most gratifying to find that the Veterinary Department has not been overlooked, as the following testifies.

To be Veterinary Surgeons (First Class), ranking with Majors, but junior of that rank, except for choice of quarters.

First Class Veterinary Surgeon, ranking with Captain, Charles Clayton.

First Class Veterinary Surgeon, ranking with Captain, Henry Thomson.

This is the first time promotion to the relative rank of major has appeared in the *Gazette* with regard to veterinary officers, and is evidence of the desire of the Horse Guards and War Office to do ample justice to the merits of the Veterinary Department.

The annual dinner of the officers of the Veterinary Department will take place at the Holborn Restaurant on June 13th, at eight o'clock.

Obituary.

THE deaths are reported of S. F. Fallding, M.R.C.V.S., Wakefield, who graduated in 1861; W. Richardson, M.R.C.V.S., Peterborough, who graduated in 1837; and H. J. Hinckley, M.R.C.V.S., Radborne, a graduate of 1868.

François-Michel Miltenberger, veterinary surgeon, died recently at Paris, aged ninety-eight years and six months, having been born at Ernstein, Alsace, in 1785. Entering the Alfort Veterinary School, he graduated in 1806, and on being appointed Veterinary Surgeon in the Imperial Guard, he was with the French army in Spain during the war in 1808; in that in Austria in 1809; in Spain again from 1810 to 1812; in the Russian campaign in 1812; in Saxony in 1813, and in the war of 1814 and 1815 in France, when Napoleon was overthrown. Quitting the army, he was appointed District Veterinary Surgeon at Schlestadt, Alsace, where he remained until 1869, when he retired to Paris, after a long and a meritorious career as a veterinary surgeon, in peace and in war. In 1871 he was made a Chevalier of the Legion of Honour.

Notes and News.

COMMEMORATIVE MEDAL TO M. BOULEY.—In order to commemorate the election of the distinguished veterinarian, M. H. Bouley, as Vice-President of the Academy of Sciences of France, it is proposed to offer him a medal of great artistic value, bearing his portrait and an inscription. The veterinary profession in all countries is solicited to subscribe to this well deserved testimonial, the amount of subscription being limited to sixteen francs, and each subscriber receiving a bronze replica of the medal. Subscriptions are received by M. L. Houzeau, Asselin and Co., Place de l'Ecole-de-Médecine, Paris.

THE VETERINARY PROFESSION AT THE ROYAL ACADEMY.—Though for some years the Army Veterinary Department has had in its ranks several officers who are excellent painters, yet until now none of them have come before the public with their works. It is, therefore, a matter for satisfaction and congratulation that First Class Veterinary Surgeon Adrian Jones, at present attached to Royal Horse Artillery, St. John's Wood, London, appears this year at the Royal Academy Exhibition with a beautiful model or statuette of a horse, admirably posed and proportioned, and to which artists of the highest distinction have awarded most flattering testimony of merit.

IMPORT AND EXPORT OF HORSES.—From the Board of Trade returns it appears that during the month of April the number of horses imported into the United Kingdom was 965, against 417 in April last year. This brought the total for the first four months of the year up to 3,249, against 1,696 in the corresponding period of 1883. The value of the horses imported last month was £29,164, against £12,680 in April last year. The value of the horses imported in the first four months of the year was £86,135; last year it was £53,105. In April we exported 892 horses, against 877 in

April last year. Of that number 233 went to Belgium, 103 to France, 154 to the United States, 36 to British North America, and 366 to other countries. The value of the horses exported in April was £45,414; last year it was £51,056. During the first four months of the year we exported 2,165 horses, valued at £117,451. Last year we exported 2,002, valued at £119,805.

Correspondence, etc.

VETERINARY INSPECTORS' FEES.

SIR,—Will you kindly afford me the privilege of asking those of your readers who are veterinary inspectors in counties or boroughs, or otherwise in a position to supply the information desired, to contribute to your pages concise, but complete, statements of the authorised fees payable to the veterinary inspectors of their respective districts? In my own town there is no fixed scale, and the cases of contagious disease which have occurred since my appointment as Borough Veterinary Inspector have been very few. The fees I have charged and received are as follows:—

For examining each animal (Pleuro-pneumonia) and	s.	d.
certificate	10	6
For mileage, for each mile travelled	0	6
For certificate when no examination fee was payable ...	5	0

I consider these fees fair and reasonable, but those paid by some local authorities appear to have been fixed many years ago, and are disgracefully small. In view of recent legislation, and the coming meetings of the National Veterinary Association in Manchester, the present time does not seem to be unsuitable for us to compare notes, and make a combined effort to obtain fair and reasonable remuneration for the services of those veterinary inspectors who do not receive it.—I am, sir, your obedient servant,

May 14th, 1884.

“A VETERINARY INSPECTOR.”

THE ANNUAL DINNER.

SIR,—Dinner is a most important matter to all men, whether they be savage or civilised, poor or rich. A man may be excused if he looks blue when he has not the wherewithal to get the chief meal of the day; but it is a colour rarely assumed by members of our profession because they cannot pay for it. Dinner not being a matter to be dispensed with, it is not surprising that, for once in a way, it was good-humouredly brought forward and considered at our meeting on the 5th instant by some of the most prosperous-looking members attending. One thought twenty-five shillings too much, and that the charge should be ten shillings and sixpence for the food, and that any liquor, other than water, should be paid for by those requiring it. That total abstainers should pay an equal contribution with others of less strength of mind, was not considered by one or two speakers as quite in accordance with strict justice; but if we are to make every man pay for exactly

what he receives in all the social relations of life we shall have endless trouble, bickerings, and annoyance, and in the case of an annual professional dinner, such an arrangement would involve an entire loss of dignity in the proceedings. They who have had experience of such procedure as that just named may well look with apprehension at the idea of seeing it applied at our May meeting. I have had experience of such arrangements, and should be very sorry to see them carried into effect at our chief professional dinner. You have the waiters worried to death taking orders ; the constant jingling and passing of money, and disputes about change and payment, and all sorts of nondescript drinks on the table, creating a veritable huffer-mugger.

Then you have invited guests, some of them distinguished, and each is "told off" to the charge of some member of the profession or society, who is whisperingly enjoined by the president to give them champagne, etc., the cost of which will be reimbursed afterwards by the dinner committee from the fund, or it may be, if there is no fund, that he, the president, will generously pay it out of his own pocket ! This leads to great present and after confusion ; the guest looks wonderingly on at seeing champagne before himself, and bottles of beer, zoedone, etc., before others. Soon it dawns upon him that he is an exception, and he begins to look upon himself as a trespasser on his neighbour's pocket ; he becomes uneasy, and his enjoyment vanishes, while, at the same time, the feelings of humiliation on the part of his hosts make them exceedingly uncomfortable. The dinner at last happily comes to an end, and it is fortunate if there is not some unpleasantness over what has been paid. This is no exaggerated picture, and is what always occurs where such poor economy is attempted. It is therefore earnestly to be hoped that our annual dinner will not be turned into such an undignified exhibition, for if such a proposal be entertained, many who now make a point of being present will cease to attend. Twenty-five shillings is the least figure for which an annual dinner can be creditably carried out, as it must be in a good room, and everything must be of the best, or those who care about their digestion will not go again. I have talked to many members of the profession who attend and who do not attend the meetings, as to why they were not present at the dinner, but not one has ever pleaded the cost as an excuse for absence from the social board. If the Dinner Committee inquire, they will doubtless find that any change in the present system is only too likely to lead to a great diminution of members, besides making the profession ashamed of what should be one of the most enjoyable of its gatherings.—Your obedient servant,

"A NORTHERN VETERINARY SURGEON."

May 16th, 1884.

DOCKING HORSES' TAILS.

SIR,—It is very remarkable that your correspondents on the subject of docking speak only of it as an operation to improve the appearance of horses.

The most frequent cause for docking (except with horses in the possession of dealers) is a dangerous habit of swishing the tail, and getting the reins under it—an awkward circumstance, leading to the most disastrous accidents. Most of your readers can call to mind horses with whom it was impossible to keep the reins clear of their tails in the fly season, and to drive them was a perfect misery. I have been reluctantly compelled to have more than one of my own horses docked for this reason, *after* they have let out and done a

lot of damage. One mare which did this, got her shoe fixed between the floor of the cart and the crossbar, and in her struggles got an open hock-joint before she could be released.

Surely some discretion ought to be allowed to educated professional men, competent to decide whether or no the necessity exists in certain horses for this operation.

The admirable R.S.P.C.A. has of late assumed a dictatorship and a position beyond and antagonistic to the noble purpose for which it was established. The members of the medical and veterinary professions are held up to scorn as the disciples of torture, and the patrons of legitimate sport brought into contempt by the maudlin sentiment which finds expression in the pages of the *Animal World*.

Mr. Mannington's manly declaration that he intends to continue to dock horses "when he considers it necessary," is worthy the consideration of veterinary surgeons before they consent to have their actions trammelled by the old ladies whose subscriptions form so large a part of the income of the R.S.P.C.A., and whose notions appear to predominate in its councils.—Yours, etc.,

HAROLD LEENEY, M.R.C.V.S.

RED MANGE IN DOGS.

DEAR SIR,—May I be allowed to ask you, as the greatest authority of the day, whether the "Red Mange" of the dog is caused by a parasite, or is a derangement of the blood, and if you think it can be cured by internal treatment alone?

I have referred to Williams, Gamgee, "Stonehenge on the Dog," and my own notes, all of which differ more or less. Apologising for troubling you, I remain, yours, etc.,

"ZERO."

[While refusing any claim to the attribute our correspondent would endow us with, we nevertheless venture to attempt to give a reply to his questions. We have seen several different affections of the dog's skin which were designated "Red Mange"; but that form of cutaneous disorder which is most commonly met with under this name is "Eczema"—a non-parasitic, non-infectious disease, particularly troublesome, sometimes, to cure. It is generally due to mismanagement in diet and exercise. Hill describes it in his book on the "Management and Diseases of the Dog."—ED. V. J.]

STRAIGHTENING HORSES' TAILS.

DEAR SIR,—Operations on horses' tails having been frequently discussed in your Journal of late, permit me to say with reference to *nicking* and *straightening tails*, that, instead of cutting, I now use a *small, sharp-edged seton needle* and *tape*. The needle is passed deep through the part, well up, and back again two inches or so lower down, but not so deep. The tape may now be cut and tied like an ordinary seton, or its ends left free. Its presence prevents rapid healing, and weakens the muscle. The tail may occasionally be drawn and fastened in whatever position it requires to be set,

and the tape be allowed to remain a week or two. I find this method very successful, besides being simple, and perhaps less painful. Should you think it worth presenting to your readers, please do so, and oblige, yours very respectfully,

WILLIAMSON BRYDEN.

Boston, U.S.A., *April 20th.*

IS THE PROFESSION PROGRESSING OR RETROGRADING?

DEAR MR. EDITOR,—I beg to ask that, with your usual sense of fairness; you will allow this to appear in your next issue. Also the enclosed newspaper copy, taken from the *North Star*, published at Darlington, Co. Durham, dated the 5th inst., giving particulars of two cases of cruelty brought before the magistrates of a small town in the North Riding of Yorkshire on the 3rd inst.—I am, dear sir, yours faithfully,

THOMAS BARKER.

26, Beaumont Street, Portland Place.

May 10th, 1884.

ALLEGED CRUELTY BY LOCAL VETERINARY SURGEONS.

Important Prosecution.

On Saturday, before Messrs. Douglas Brown, James Emerson, and J. P. Sowerby, John Linfoot, a veterinary practitioner, residing at Stokesley, was charged by Inspector Grover, of Scarborough, with cruelty to a cow belonging to the Rev. George Proude, of Faceby, on the 25th of February. Mr. Morton Smith, barrister, prosecuted for the Royal Society for the Prevention of Cruelty to Animals, the defendant being represented by Mr. R. W. Wilkes, Darlington.

Mr. Smith said defendant was called in to see a cow that had calved, belonging to Mr. Proude, and found the uterus protruding. In trying to return it he put the animal on its back, but did not succeed in returning the uterus, and therefore cut it off. He attempted to do this first with a blunt knife, and failing, had to borrow another knife, and fifteen minutes after the operation was performed the cow died. To prevent hæmorrhage defendant used a piece of knotted string, a most improper ligature.

Dr. Fleming, President of the Royal College of Veterinary Surgeons, was called, and said the position of the cow lying on its back would prevent the return of uterus. The ligature was also dangerous, as it ought to have been perfectly smooth. Death would result from internal hemorrhage. If the uterus could not be returned he would recommend the animal being slaughtered.

Mr. Peter Stalker Cowan, M.R.C.V.S., of Colchester, said the fact of the uterus being out a few hours afforded no difficulty in returning it. The cow was in no danger through it being out, and could have waited until proper instruments were brought. A blunt knife would cause acute pain. In his opinion the operation was unnecessary, unskilful, and careless.

The Bench decided that the defendant had acted according to the best of his ability, and dismissed the case.

William Thompson, farmer, Stokesley, and James Coulson, veterinary surgeon, were then charged with cruelty to a horse.

Mr. Smith, in opening the case, said defendants were summoned for docking a horse. The custom of docking was very prevalent in England, but was confined to this country. The prosecution did not press for pecuniary penalties, but for a conviction similar to those which had been granted in a very large number of cases in various parts of the country. He then cited a number of authorities to show that the custom of docking was unnecessary, the only advantage gained being in a pecuniary sense. The horse, in this instance, had died from Lock-jaw.

Dr. Fleming said he was the chief veterinary surgeon at the War Office, and had about 15,000 horses under his charge. He had paid special attention to docking, especially in connection with army horses. The practice was formerly prevalent, but had been prohibited for upwards of twenty years. Not merely veterinary surgeons, but also soldiers and officers, were strongly against docking. Officers with docked horses were last year ordered off parade. In performing the operation great difficulty was experienced in cutting at the joint, operators having generally to cut through the bone. Cautery is generally used to stop the bleeding. Docking was a great disadvantage to horses, as they then lose their natural defence against flies. In cases where horses have not been docked it was found that their tempers were much improved. From evidence he had collected, he had found the majority of accidents happen with horses whose tails have been docked.

Mr. Cowan said he was a member of the committee appointed at the Congress of Veterinary Surgeons to inquire into the practice of docking horses. It was almost unanimously agreed that docking was unnecessary, and ought to be abolished, as it was principally done for fashion's sake.

Mr. Hunting, M.R.C.V.S., said he had an extensive practice in London, and found docking was generally performed there by dealers, who got more money for docked horses. His own experience was that docked horses got their tails more easily over the reins, and held them down more tightly.

In cross-examination, witness admitted there was a general difference among veterinary surgeons as to the necessity for docking. The cutting of lambs' tails was justified to obviate a greater evil.

Profesor Pritchard was expected to give evidence in both cases, but did not arrive in time.

After some deliberation the Bench decided that it was desirable that the opinion of a higher court should be taken as to whether docking is within the Act, and they therefore dismissed the summons, subject to a case.

CHOREA IN A GOAT.

DEAR SIR,—I send you the information asked for relative to the case of Chorea in a goat I sent you, which was published in the February number of the VETERINARY JOURNAL. The animal had been in possession of its present owner since it was a few days old, and had been affected in the manner described since its birth. The kid I saw was the second one it had, but the peculiar spasm of the hind quarters had been noticed before the first pregnancy, and the act of parturition and suckling the first kid appeared not to have had any effect either for good or bad. There was no disturbance of either respiration or circulation, or any loss of consciousness as described in the chapter on "Parturient Eclampsia" in Fleming's "Veterinary Obstetrics." I would feel greatly obliged for any information through the columns of the VETERINARY JOURNAL, as in the limited number of professional

works that I have access to in this country I can find no mention of anything resembling this case. Apologising for troubling you, I remain, yours sincerely,

Lahore, April 10th.

JOSHUA A. NUNN, A.V.D.,

Veterinary Surgeon to Punjab Government.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Professor McCall, Glasgow; A. W. Hill, London; J. B. Gresswell, Louth; R. H. Dyer, Limerick; J. Macqueen, Glasgow; R. Glass, Glasgow; E. Beddard, Wolverhampton; J. A. Nunn, Lahore; R. W. Burke, Cawnpore; J. H. Steel, Secunderabad; G. H. Fenton, Secunderabad; W. Bryden, Boston, U.S.A.; J. W. Hill, Wolverhampton; T. Greaves, Manchester; R. Rutherford, Edinburgh; W. Lewis, Crewe; "Zero;" "A Veterinary Inspector;" T. Barker, London; C. H. Sweetapple, Ontario.

BOOKS AND PAMPHLETS: *MM. Goubaux and Barrier*, De l'Extérieur du Cheval; *Dr. Wehenkel*, Etat Sanitaire des Animaux Domestiques; *Dr. Putz*, Uber Hufkrebs und Strahlfäule; *Zur Therapie des Hufkrebses der Pferde*; *F. S. Billings*, The Relation of Animal Diseases to the Public Health; *G. Gore*, The Utility and Morality of Vivisection.

JOURNALS, ETC.: *Recueil de Médecine Vétérinaire*; *Journal of Comparative Medicine and Surgery*; *Wochenschrift für Thierheilkunde und Viehzucht*; *L'Echo Vétérinaire*; *Annales de Médecine Vétérinaire*; *La Clinica Veterinaria*; *Archives Vétérinaires*; *Der Thierarzt*; *Revue Vétérinaire*; *Quarterly Journal of Veterinary Science in India*; *Archives de Médecine et de Pharmacie Militaires*; *Lancet*; *Live Stock Journal*; *Medical Press and Circular*; *American Live Stock Journal*; *American Veterinary Review*; *Edinburgh Medical Journal*; *British Medical Journal*; *Presse Vétérinaire*; *Mark Lane Express*; *Deutsche Zeitschrift für Thiermedizin und Vergleichende Pathologie*; *Repertorium der Thierheilkunde*; *Archiv für Pathologische Anatomie und Physiologie*.

NEWSPAPERS: *The Protestant*; *Glasgow Herald*; *Montreal Daily Star*; *Ontario Mail*; *Horse and Hound*; *Leeds Mercury*; *South Eastern Gazette*.

All Communications, Books for Review, Advertisements, etc., should be addressed to the Publishers.

Morbid Specimens should be forwarded to the Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, though not necessarily for publication. Anonymous Letters and Articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors.

Communications for insertion in the next number should arrive on or before the 15th of the present month.



